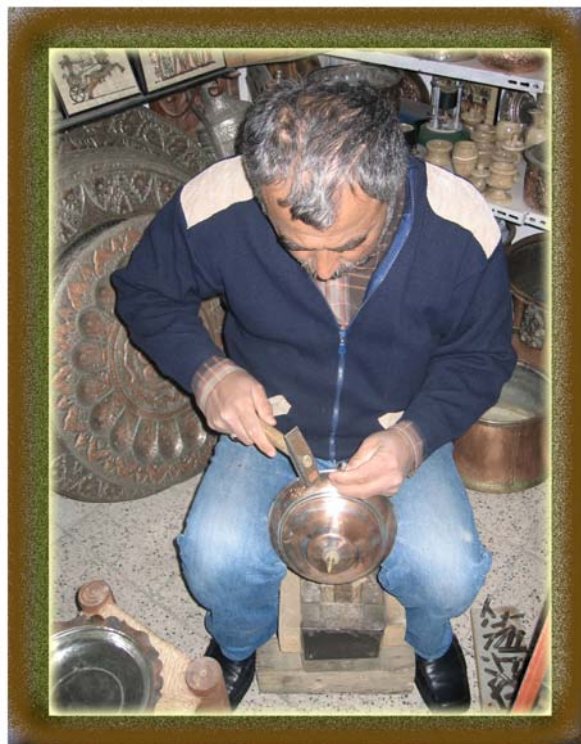


**Hely Westerholm**

**A journey into the core of the professional skill sets of  
small business entrepreneurs**

A study based on a review of literature and a DACUM  
analysis



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on March 30, 2005 (Hely Westerholm)

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## ABSTRACT

Westerholm, Hely

A journey into the core of the professional skill sets of small business entrepreneurs. A study based on a review of literature and a DACUM analysis.

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Diss.

This study examines the professional skill sets that small business entrepreneurs consider essential to their work. Small business entrepreneurs were given an opportunity to express their views in small focus groups of peer entrepreneurs. Consensus opinions formulated by the groups were then meticulously documented. The results expose the very core or soul of entrepreneurial skill sets by determining what small business entrepreneurs feel they must be able to do. Acknowledgement and acceptance of tacit knowledge as part of one's skill set would introduce a systematic approach to the recording of such knowledge and enable its transfer to co-workers or successors.

The theoretical framework consists of theories dealing with the general skill sets and expertise of entrepreneurs. This expertise is divided into cognitive, affective and psychomotor skills. These are then analysed using a theoretical model based on Bloom's taxonomy along with the summary put forward by Roodt. The research approach is qualitative and phenomenographic. The empirical data was collected through a Finnish adaptation of the Canadian DACUM (Developing A Curriculum) model which is used to analyse the contents of the requirements of various occupations. The practicality of the DACUM model functioned as a method for collecting empirical data consisting of seven groups of small business entrepreneur respondents. In addition to the three groups in Finland, sessions were also arranged in Austria, Hungary, Lithuania and Turkey. The DACUM sessions were attended by a total of 30 Finnish and 29 foreign small business entrepreneurs.

The study finds that the core, or soul, of the small business entrepreneurs' skill sets is devoted above all to leadership and management with sales and marketing also playing a role. Although small business entrepreneurs view financial administration and technical skills as necessary and important, they do not view them as core elements, but rather as something that can be acquired from an outside source. The strong self-esteem that realises the entrepreneurial dream arises from the soul of the entrepreneur. The entrepreneurial soul – the bedrock of their skills – is made up of cognitive-affective-psychomotor skills. It manifests itself in quite a similar form not only in Finland and elsewhere in Europe, but also in culturally divergent Turkey, suggesting a distinct similarity in entrepreneurial soul despite certain differences in political or religious beliefs, ethnical background, or geographical location.

It can be concluded that a distinct line should be drawn between what entrepreneurs must be able to do and which skills are required in business administration. Small business entrepreneurs must comprehend the concept and totality of the business along with the distinctive characteristics of each sector, i.e. they must possess a cognitive knowledge of business activities. Affective and psychomotor skills are now highlighted in the expertise of small business entrepreneurs alongside the traditionally emphasised cognitive skills.

Keywords: Attitudes, Competence, DACUM analysis, Entrepreneur, Entrepreneurship, Explicit knowledge, Tacit knowledge.

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## PREAMBLE

*"There is no real growth of knowledge without new ideas, without even erroneous ideas."*

Sir Karl Raimund Popper (1902–1994)

The start to my journey into the soul of the small business entrepreneur, i.e. the core of their professional skill sets, came during a long and challenging business trip to Canada in 2003, when my other duties also allowed me to study the planning of curriculums in vocational education that starts with the demands of the world of work. The competence-based DACUM model, from Developing A Curriculum, had been used as an education planning tool in Canada for decades. I was surprised to discover that many of my co-students worked in human resources. My interest in DACUM was piqued by the fact that performance of the DACUM competency analysis on all duties within the enterprise allowed the enterprise to retain precise documentation of the skills held within the enterprise, in order not to lose the knowhow born of lengthy experience, personal insights, knowledge of the local culture of work and sense of the bigger picture. This gave me the idea of incorporating the DACUM analysis into my own work at Helsinki Business College in re-inventing the performance review model. I had the dream of performance reviews that would allow each employee to stake out personal territory alongside ordinary job duties. Such territory would be discovered through job analysis.

My dream was never realized as such, yet this novel idea became a focal tool for my analysis of the work of the small business entrepreneur in my research. The National Board of Education had launched a program to develop the curriculum for an entrepreneurial business study module in vocational education. I was in possession of a model that would give me access to the core of entrepreneurial skills. I also had a colleague, Helena Allahwerdi PhD, who believed my job was to develop the Helsinki Business College educational institute. She had been the *primus motor* behind my sojourn in Canada, and she could perceive the potential offered by DACUM in modernizing entrepreneurship education based on knowledge sourced from small business entrepreneurs themselves. I have had the distinct pleasure of drawing on Helena's wisdom and extensive knowledge for five years now, and hope for many, many more.

The credit for the aim of developing entrepreneurship education turning into a year-long journey into the soul of the small business entrepreneur must go to my dissertation supervisor, Professor Matti Koiranen, who also believed in the value of developing the college. It was his belief that such development could only be brought about by a skilled staff. Professor Koiranen was instrumental in influencing many of my colleagues at Helsinki Business College to pursue further education in the joint doctoral program of the University of Jyväskylä and Helsinki Business College and Haaga Institute Polytechnic and Helsinki Institute of Business/Malmi. The consistent, goal-driven and exceptionally supportive attitude of Professor Koiranen has been a key contributor to this study. He convinced me that this demanding, yet ultimately life-enriching study could be accomplished. His constructive criticism was what pushed me always to work a little harder and raise the bar a little higher. For all these con-

tributions, I wish to extend to him my sincerest thanks.

A great deal of gratitude is also owed to my second dissertation supervisor, Docent Tarja Römer-Paakkanen, who was the first to believe in the potential of the DACUM model as a new kind of data collection method. Her expertise and encouraging instruction throughout my research provided me with a steady driving force. I also wish to give my sincerest thanks to my third supervisor at the University of Jyväskylä, Ph.D. (Econ) Mari Suoranta, especially for educating me in entrepreneurial marketing and technology marketing. The most recent trends in the field gave me a whole new understanding of the current potential of marketing in the framework of entrepreneurship.

I was honoured in having Professor Pekka Ruohotie of the University of Tampere and Docent Jyrki Ahola of Lappeenranta University of Technology appointed as preliminary reviewers of my dissertation. I owe them a debt of considerable gratitude for their valuable comments and advice.

A warm 'thank you' also goes to my job supervisor, principal Antti Loukola for his open-mindedness in supporting my post-graduate studies as well as those of other members of our college's staff. I also wish to thank Heikki J. Perälä, the managing director of Helsinki Business College's owner, the Helsinki Region Chamber of Commerce, for giving the opportunity to execute this unique study module. The Federation of Finnish Enterprises and their education officer Veli-Matti Lamppu are owed thanks for their cooperation and especially their assistance in reaching out to Finnish small business entrepreneurs for the DACUM seminars. Counsellor of education (Hon) Elisabet Kinnunen of the National Board of Education earned my gratitude for her ongoing efforts to develop and revise education in the field of entrepreneurship and for allowing me to take part in these efforts.

My heartfelt thanks also go to Maria Nevala for polishing the appearance of my dissertation, preparing the tables and figures, and for addressing any number of technical printing issues. Arja Kangasniemi, Marja Sinkkonen and Nicholas Kirwood have my gratitude for revising my drafts in Finnish and English. Lena Sparkman and Pulmu Karhu are to be thanked for their assistance in organizing seminars and for cataloguing and recording a fairly extensive body of research materials. Information seeking would not have been the same without the invaluable help of Matias Laurila of the College's library.

A sincere 'thank you' goes to all my fellow students for an interesting journey into studies and research, and a special word of appreciation to my friend Pirjo Takanen-Körperich for our numerous stimulating conversations and her support during the most trying periods of my research.

Much gratitude is owed to all 59 Finnish, Turkish, Austrian, Hungarian and Lithuanian small business entrepreneurs who gave of their time and knowhow to take part in the seven distinct DACUM seminars held in 2004 and 2005. These provided me with the empirical element of my research, and without their very personal contributions, this research would never have succeeded.

I also thank Liikesivistysrahasto fund, the Union of Private Vocational Institutions YAOL, SIEC and Yksityisyrittäjien säätiö foundation for the grants received from each at various stages of my research.

Finally, I would like to thank my family - my husband Ilari and our sons

Jarno and Raine and their spouses – for their unwavering support and encouragement. Ilari's patience and empathy at the various stages of this journey gave me the strength to see it through. My mother Hilikka Rantala and mother-in-law Orvokki Toljander have always shared in my joys and sorrows alike, and the attitude to life of these two remarkable women has served as a beacon on my own path through life. My brother Risto Rantala has my gratitude for always pulling together with me. My late father Pauli Rantala instilled in me already as a child the value of learning and making my own way in the world. For these invaluable life lessons, I thank them all.

In Pakila on the 9<sup>th</sup> of April 2007

Hely Westerholm

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# 1 INTRODUCTION

## 1.1 Research premise

The study at hand seeks to define the skill sets that small business entrepreneurs consider essential to their work. Small business entrepreneurs expressed their views in small focus groups of their peers, i.e. other entrepreneurs. The consensus opinions formulated by the groups were then meticulously documented.

Research is necessary because the structures of our welfare society can only be maintained and improved and employment safeguarded through the creation of a new kind of entrepreneurship. Over the coming decade, through 2015, a successor will be needed for nearly 80,000 Finnish businesses just to fill the gap arising from the transfer of businesses to a new generation (Ministry of Trade and Industry 2005, 13). Most of the businesses seeking successors, as most Finnish businesses in general are small enterprises or even micro-enterprises, strongly identified with their owner-operator. Locating a successor committed to entrepreneurship for such small enterprises is far from a foregone conclusion (Römer-Paakkanen 2004, 2-3).

The standard of education, the public image of entrepreneurship and the overall business climate is good in Finland. Before the recession of the 1990s, Finnish young people rated the occupation of entrepreneur as the most attractive employment. Although the economy regained a stable footing quite some time ago, many young people still shun entrepreneurship. An educational system built on paid work and an idolization of higher education certainly play a role here, as does the overall attitude climate in society. (Kasvio 1994, 124). It may be stated that Finnish society manifests a paradox of entrepreneurship. Although the overall framework and infrastructure for entrepreneurs favours business, the positive attitude towards entrepreneurship does not translate into greater numbers of entrepreneurs. (Haavisto, Kiljunen & Nyberg 2007, 71; Römer-Paakkanen 2004, 28).

A higher number of entrepreneurs is needed, yet becoming an entrepreneur is far from an uncomplicated process. It is affected by many factors arising from both personality and external circumstances and culture, which is why the entrepreneur-to-be must possess a certain competence and attitude, i.e. skill set, comprising knowledge, skills, personal qualities and attitudes as well as values

to which the entrepreneur is committed and to which the work and activities give expression. (Helakorpi 2005, 58; Ruohotie & Honka 2003, 54; Descey & Tessaring 2001, 12; Drexel 2003; Juceviciene & Lepaite 2005; Munch & Jakobsen 2005; Sveiby 2001; Voorhees 2001).

Selection to entrepreneurship takes place through learning and a lengthy process so that the entrepreneur may develop a certain mindset, way of working and attitude toward the work (Koiranen 1993, 31). The growing process requires knowledge of entrepreneurship, business and business procedures and policies in particular. Mere cognitive growth does not suffice, however; growth in the attitudes of internal entrepreneurship in particular is a part of the process. Taking losses as a learning experience is an element of internal entrepreneurship at the level of both individual and organization. (Gibb 1990, 63).

Theories on entrepreneurship and the entrepreneur to an increasing degree are addressing entrepreneurship primarily as a state of mind and process through which economic activity is created and developed through a combination of risk-taking, creativity and innovation as well as proactive good leadership in a new or existing enterprise (Commission of the European Communities 2003; Lumpkin & Dess 1996, 146). In an unrestricted operating environment, this allows a unique and complex individual capable of generating new ideas and objects to combine factors and observe the environment in a new way. (Timmons & Spinelli 2007, 7-9; Kyrö 1998, 9).

If we are to appreciate the holistic nature of entrepreneurial skills, we must also appreciate the tacit knowledge obtainable from small business entrepreneurs (Polanyi 1966; Alvarez & Busenitz 2001, 760; Tsoukas 2002, 15). Tacit knowledge may be difficult to trace, however. One method is to ask small business entrepreneurs how they perceive their expertise and which knowledge, skills and attitudes they use to define the role of entrepreneur. This consultation and observation makes it easier to outline the manner in which expertise could be transferred into entrepreneur education. It is important to determine whether the transfer of entrepreneurial expertise to another person, e.g. a successor, is possible in the first place.

Tacit knowledge and interpretative knowledge are used to generate new concepts, which are used in turn to generate new tacit knowledge. The generation and transfer of new tacit knowledge require both trust and flexibility. (Polanyi 1966, 24-25; Ruohotie 1998, 20; Nurminen 2000, 28-30; Tsoukas 2002, 16; Brinklow 2004, 11). The competitiveness of the enterprise and the continuity of business also demand that knowledge is transferred and retained within the enterprise. It is likely that tacit knowledge will be lost as small business entrepreneurs retire. If we intend to capitalize on the professional skills of our current entrepreneurs, it is already high time to map and record the skill sets and tacit knowledge of the small business entrepreneur.

My personal gateway to mapping the expertise of the small business entrepreneurs came from the competence-based job analysis and curriculum planning method DACUM (Developing a Curriculum), which I first encountered in Canada in 2003, and from the emphasis on entrepreneur education in my work at Helsinki Business College. DACUM provides a tool for the precise

determination and recording of the knowledge, skills, attitudes and behaviours required in various occupations.

The syllabus in entrepreneur education in turn was being developed in a project headed by the National Board of Education, a part of which concerned research into the work of small business entrepreneurs. Once the first phase of the project was completed, I continued to pursue the line of research independently, which ultimately gave rise to a thesis on bridge studies in entrepreneurship. In this study, I mapped the core skill sets of small business entrepreneurs and the cognitive and affective skills contained therein. This was accomplished by asking groups of small business entrepreneurs to arrive at consensus opinions about the knowledge, skills and attitudes required of them, recording these on index cards in the form of active statements, and arranging the cards into a chart. (Westerholm 2006).

The research focused on the fact that affective skills played a larger role in the expertise of the small business entrepreneur than catered for in current entrepreneur education. Young and higher-educated small business entrepreneurs in particular considered affective skills central to their work. Observation of this seeming contradiction sparked a desire to delve deeper into the issue from the viewpoint of not only the cognitive and affective core skills expressed by the entrepreneurs but also psychomotor core skills as well as the sub-skills contained in all the core skills. *This launched my exploration into the core of the professional skill sets of the small business entrepreneur.*

## **1.2 Goals, phenomenon and positioning of the study**

The aim of the study is to describe and analyze the competence, skills and attitudes that make up the expertise of the small business entrepreneur as expressed by them. Analysis in this context refers to classification and not to cause-and-effect analysis. In the summary of the study I describe what the small business entrepreneur must be able to do to succeed as an entrepreneur. Part of this expertise is made up of so-called tacit knowledge, which must be defined with greater specificity if it is to be transferred to a successor.

The research phenomenon concerns the skill sets the small business entrepreneur expressed in the form of competence and attitudes, which brings up the pedagogy research area. Entrepreneurial skills can also be approached from the viewpoints of the demands of entrepreneurship and entrepreneur research as well as those of trade and industry and competition, which in turn represent the business studies research area. Figure 1 illustrates the positioning of the study:



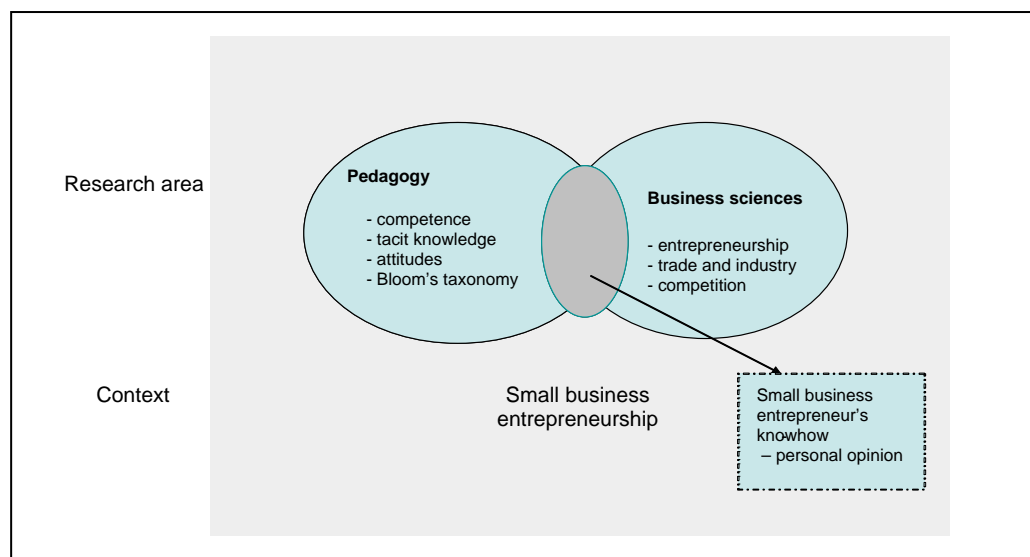


FIGURE 1 Research positioning

The direction of my study is guided by confining the phenomenon to the interface of pedagogy and business studies. In the study, I seek to profile the skill sets of entrepreneurs in light of earlier research and to link these with the opinions of small entrepreneurs themselves of the subject. The study represents a dialogue between theory dealing with entrepreneurial skills and the reality of the matter as expressed by entrepreneurs themselves.

### 1.3 Scope of study and research setting

The empirical data is based on seven samples of small business entrepreneurs. In addition to the Finland, data was also accumulated elsewhere in Europe and in Turkey. The research data was obtained from 30 Finnish and 29 foreign small business entrepreneurs. Use of the DACUM model was limited to development undertaken in Canada and its partial Finnish application. Several of the small business entrepreneurs attending DACUM sessions abroad could not speak English, and the use of interpreter impacted on the entrepreneurs' choice of action verbs, which are a key component of the DACUM model. Nonetheless, the model's technique, i.e. arriving at a consensus decision, largely eliminates any language-related misinterpretation.

Qualities adopted from entrepreneurship, such as independent and creative thought, new kinds of solutions and collaboration to effect change, are often associated with the learning organization. The learning organization is not addressed in this study, however.

Entrepreneurship and entrepreneurs are mostly treated positively in literature. Moreover, there is a clear consensus in society as to the contribution of entrepreneurship to increased wellbeing, and entrepreneurship is by and large encouraged. Very little criticism is presented and the examples of bringing up drawbacks are few, which is why this study as well presents the concepts of entrepreneurship and entrepreneur in an almost consistently positive light.

Several different interpretations and translations have been used in the various studies of the concepts of competence, qualification, skill and expertise. This may well give rise to inconsistency. In my study, **the term skills/skill sets is taken to embrace both competence and attitudes.**

The research setting of this study is illustrated in Figure 2:

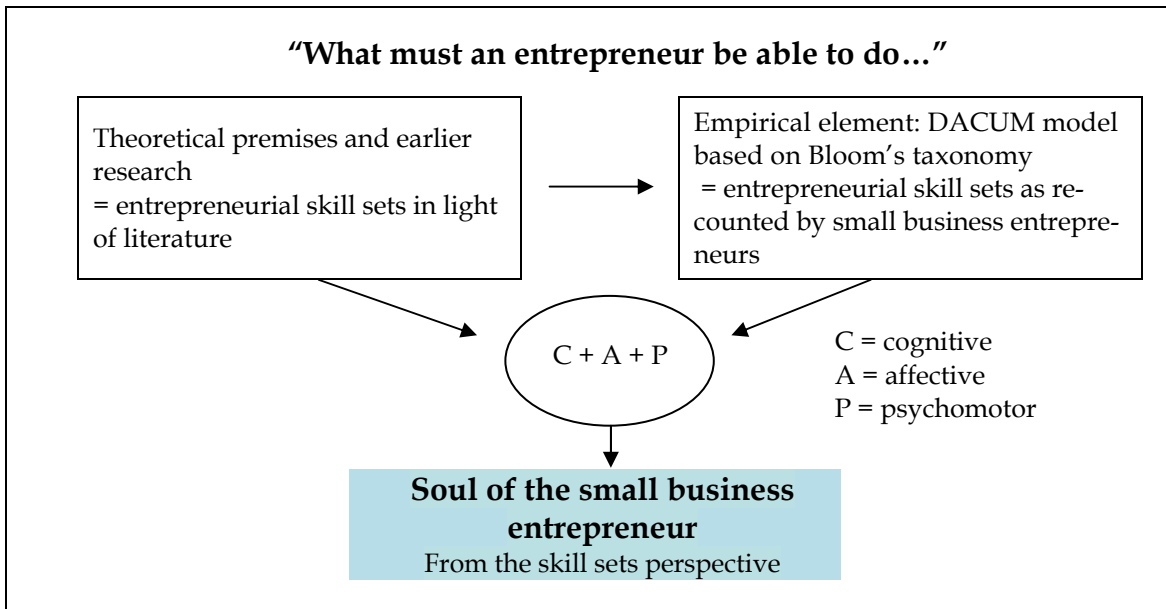


FIGURE 2 Research setting

The theoretical framework of the study consists of theories dealing with the general skill sets and competence of entrepreneurs as well as their knowhow. A synthesis put forward by Roodt is used to access the skills required of the small business entrepreneur in theory. The answer to the research question is sought through the empirical data, which is based on the job analysis charts prepared by the small business entrepreneurs themselves using the DACUM model. The knowledge, skills and attitudes appearing on the job analysis charts are organized into a portrait of the small business entrepreneur based on the Bloomian vision underlying the DACUM model (Bloom 1956; Bloom & Krathwohl 1956; Krathwohl, Bloom & Masia 1964; Dave 1967 & 1970) and expressed as cognitive (C), psychomotor (P) and affective (A) skills. This examination gives rise to a chart describing the core of entrepreneurial skills or the soul of the entrepreneur, which in turn provides an answer to the question of what entrepreneurs personally feel they must be able to do.

## 1.4 Definitions of key concepts

The study involves a number of key concepts, which for the purposes of the study are defined as follows:

DACUM	Developing a Curriculum, a curriculum planning and job analysis method used in this study to identify and classify cognitive, psychomotor and affective skills.
Core competence	Core competence in this study equals core skill set and it describes a duty or responsibility essential to a given occupation in terms of expertise. A certain degree of comparability to key competence and key skill can also be observed. Core competence is examined in more detail in section 4.2.1.2.
Facilitator	Leader of DACUM session versed in the DACUM method.
DACUM job analysis chart	A single-page chart created at the DACUM session by consensus opinion and describing the core skill sets and sub-skills of the participants through statements beginning with an active verb
Competence-based learning	A learning method emphasizing competence and attitudes.

Developing a Curriculum is a method for the analysis of occupations and it relates to either curriculum planning or human resources administration, for example in the recording of tacit knowledge. The DACUM model is based on business-oriented competence-based education. Originally, this educational method was devised as a systematic approach to education that emphasized the student's ability and skills upon completion of the education programme. In curriculum planning, competence-based education focuses on the application of knowledge rather than its acquisition. The term 'skill set' in this framework is taken to mean knowledge, skills and attitudes. Learning is assessed through demonstrations in real-life work situations. The DACUM model is discussed in greater detail in chapter 4.2.1.

### Competence

The concept of competence embodies expertise, skill, qualification, ability, capacity, efficiency, proficiency and skilfulness. It is an amalgam of knowledge, behaviour, attitudes and values and refers to the mastering of a skill. Learning, or achieving a goal, are construed as skills. Competence is also linked to creativity, innovativeness, flexibility, endurance, precision and accuracy. According to Ruohotie and Honka (2003, 54), there is much scientific literature available that

deals with competence and qualification. (See Raivola & Vuorensyrjä 1998; Nijhof & Streumer 2001; Rychen & Salganik 2003). Regardless, the use of these concepts has been inconsistent and no consensus has been reached on their semantic content. Competence, expertise, core expertise and qualification are discussed in greater detail in chapter 2.1.1.

### Skill set

For purposes of this study, skill set embodies the competence and attitudes of the small business entrepreneur.

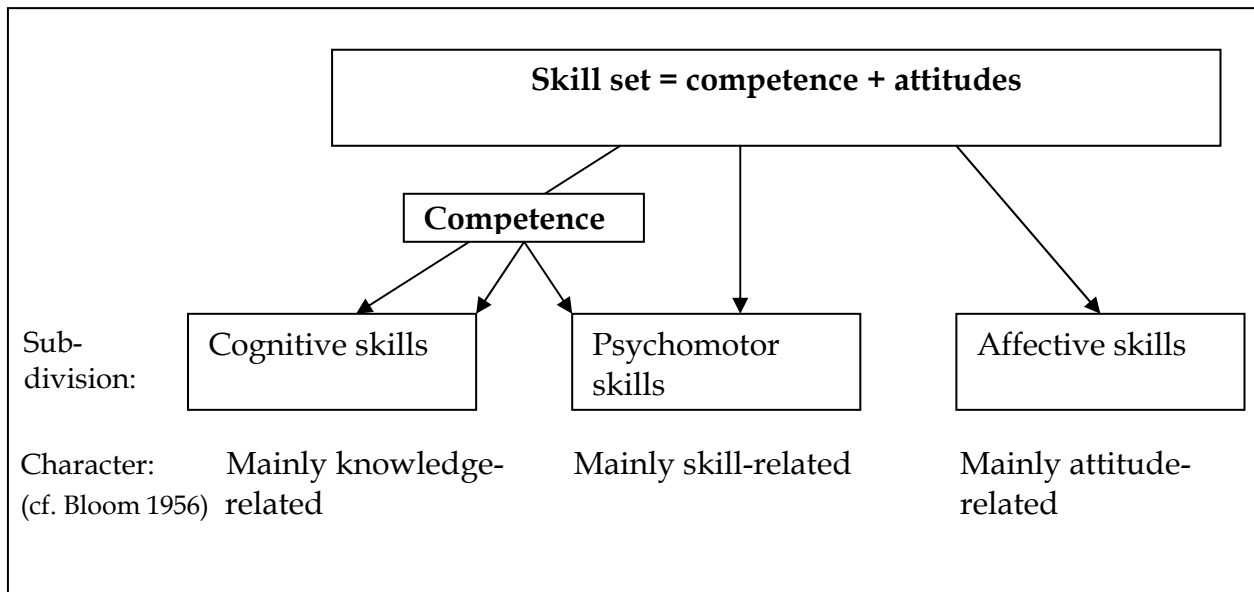


FIGURE 3 Definition of the concept of skill set

The categories in the sub-division are not mutually exclusive and may overlap. A belief, for example, may be cognitive-affective by character while a skill may have a strong cognitive orientation.

### Entrepreneurship

Entrepreneurship refers to the ability of individuals to transform ideas into action. It involves creativity, innovation and risk-taking as well as the ability to plan and execute projects for the purpose of achieving goals. Entrepreneurship lends support to everyday life both at home and in society and helps workers become aware of the wider framework of their efforts and to take advantage of opportunities. It is also a foundation for the special abilities and knowledge that entrepreneurs need when starting a social or commercial enterprise. (Commission of the European Communities 2003).

Entrepreneurship refers to entrepreneurial activity, the social mission of which is to develop new expertise, direct resources and expertise to profitable use, and ensure that the resources give rise to the outcome best in terms of all parties. Entrepreneurship is discussed in greater detail in paragraphs 3.1.1. and 3.1.2.

### Entrepreneur

An entrepreneur is a person who carries out his desires diligently and in a crea-

tive manner. The entrepreneur's intents are linked to subject and situation and also have a cultural context, yet ultimately the entrepreneur creates his own intent. The entrepreneur acts according to his strategic intent and takes responsibility for his own future on the strength of it. The entrepreneur believes in self-control and has a need to determine his own future. The entrepreneur has the ability to see and think. He is a visionary. He is persistent and capable of taking risks. He is a visionary and a doer. (Koiranen 2000, 31-32).

A key aspect of this study is to perceive the personality of the entrepreneur as behaviours as well as traits. This makes the entrepreneur a person who not only possesses certain traits but who also innovates and manages new business models. To borrow from the conclusions of Puhakka (2002, 206), "the personality of the entrepreneur is a synthesis of the essence of the individual and the world view, self-concept and coping strategies surrounding it." The concept of entrepreneur is discussed in greater detail in Chapter 3.1.3.

## **1.5 Structure of the study**

The study consists of seven Chapters. The preamble discusses the reasons for choice of subject, the aims of the study, the phenomenon, positioning, boundaries and framework. Central concepts and the structure of the study are also presented. Chapter 2 discusses skill sets in light of earlier research. Chapter 3 presents entrepreneurial activity from the perspective of skill sets and from the viewpoint of future expertise requirements as well as entrepreneurship education. The methodological choices, execution of empirical study and first round of analysis are presented in Chapter 4, while Chapter 5 contains the empirical findings and the second round of analysis. Chapter 6 discusses the findings and Chapter 7 presents possible avenues for further research.

The structure of the study is presented in Figure 4:

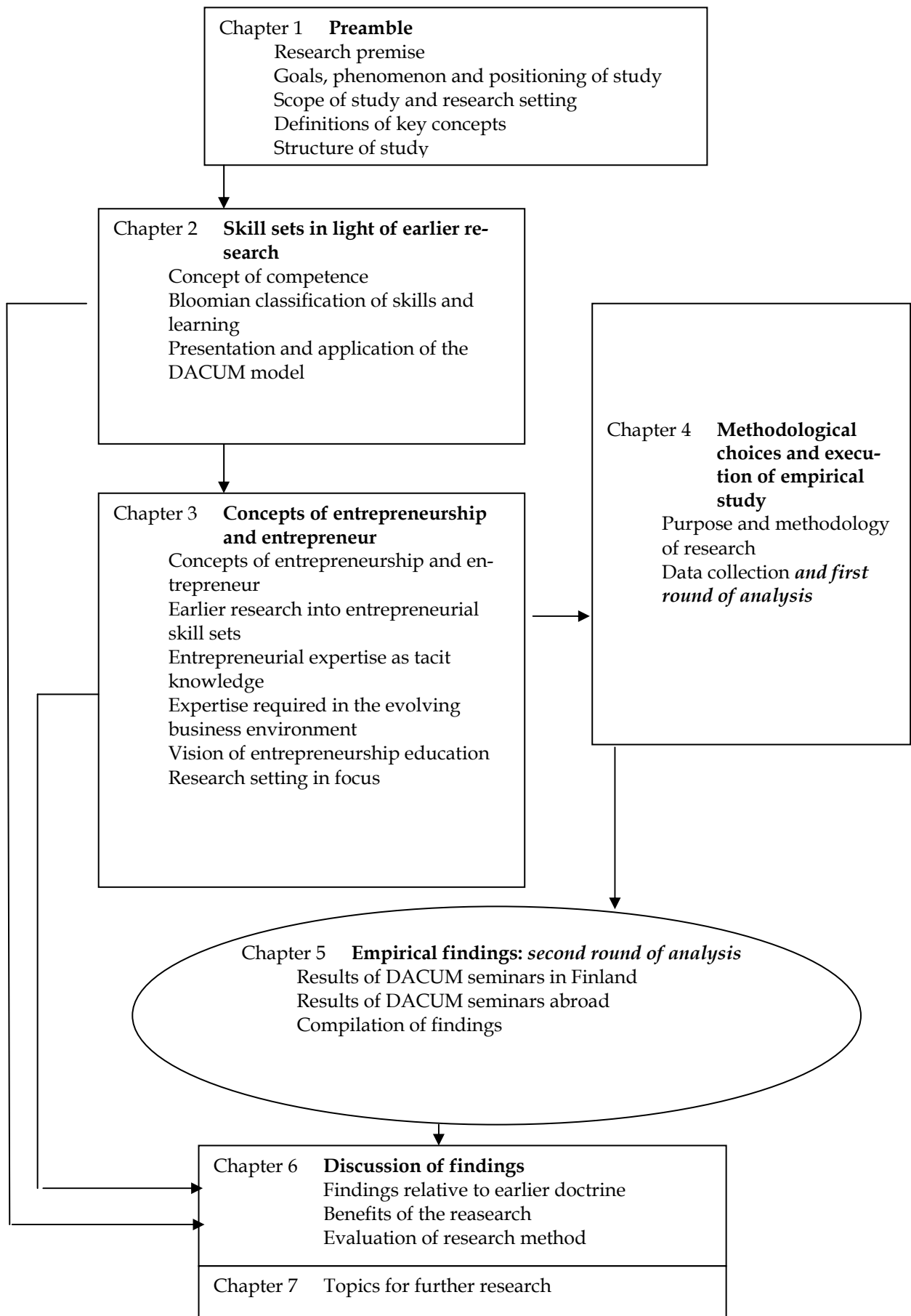


FIGURE 4 Structure of the study

## 2 SKILL SETS IN LIGHT OF EARLIER RESEARCH

Chapter 2 examines theoretical aspects relating to skill sets as well as analysis and interpretation from a Bloomian perspective. The data collection method utilized is the DACUM model, on which historical background and link to Bloom's taxonomy is discussed.

### 2.1 Concept of competence

#### 2.1.1 Fundamental concepts of competence and qualification

In the analysis of the concepts of competence, it is important to distinguish between the language of science and everyday language. Formalities and presentation relating to the concept are more demanding in the language of science than in everyday usage. Conceptual analysis allows us to strive towards the fundamental goals of science, such as the formulation and comparison of classes. This involves an analysis of the similarities and differences between the concepts under examination and drawing conclusions from the data (Näsi 1980, 7). The following are but some of the interpretations of competence in everyday language: knowhow (knowing how to perform a task required in an occupation), qualification, proficiency and competence. The understanding of competence is nuanced and dependent on the interpreting party's context. Basic interpretations are discussed below:

**Expertise** refers to abilities and skills relating to human behaviour. Expertise hence means the application of knowledge and skills in a social context such as the workplace. Expertise also comprises tacit knowledge, which is often subconscious understanding and interpretation based on subjective experiences which cannot be externalized. In this study, expertise is deemed the top concept, while proficiency and expertise are its sub-concepts. Proficiency comprises on the one hand the knowledge and skills required in an occupation and on the other the various personality traits of a person, which are shaped over time by genetics and environment. The foundation for expertise and proficiency is ability, which in turn is a result of inherited talent on the one hand, and learning and experience on the other. (Helakorpi 2005, 56–58).

**Core expertise** according to Prahalad and Hamel (1990, 82) is the collective learning in the organisation, especially how to coordinate diverse production skills and integrate multiple streams of technologies. Nonaka and Takeuchi hold that this behaviouristic view must be expanded to comprise also the where-strategy (Nonaka & Takeuchi 1995, 47).

**Qualification** refers to the requirements imposed for entry into a certain occupation or profession, i.e. proficiency requirements. Qualification in other words stands for the general prerequisites for a certain job. (Helakorpi 2005, 58).

**Competence** means the skill sets (abilities and qualities) held by an employee for accomplishing a given task. It thus comprises personal expertise. A person may possess competence for several different jobs, as demonstrated in Figure 5:

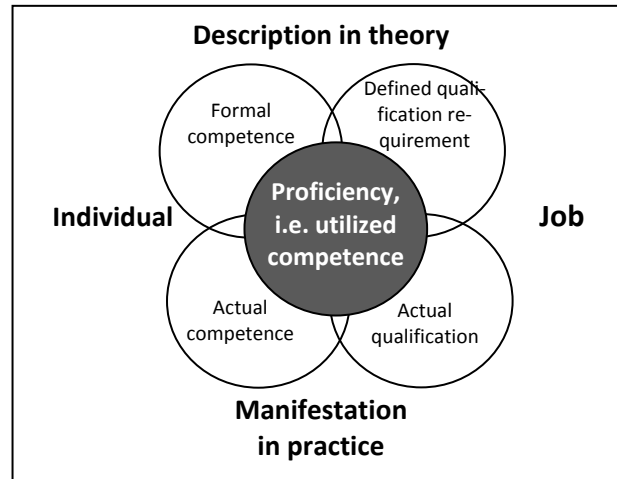


FIGURE 5 Aspects of qualification and competence (Helakorpi 2005, 58)

It is thus necessary to distinguish between formal competence (training, diploma) from actual demonstrated competence, as well as defined qualification from actual qualification. Utilized competence consists of that part of competence which comes into play in a given job. (Helakorpi 2005, 58, see Ellström 1992, 43).

Ruohotie and Honka (2003, 54) acknowledge the ample availability of scientific literature dealing with competence and qualification (see Raivola & Vuorensyrjä 1998; Nijhof & Streumer 2001; Rychen & Salganik 2001). Nonetheless, the usage of the concepts has been wavering and no consensus has been reached regarding the semantic content of the two.

### 2.1.2 Different interpretations of the concept of competence and comparisons thereof

Competence as a fundamental concept of professional expertise has a number of different interpretations. It may be construed either as a characteristic of the individual or as demands imposed by job duties. According to Ruohotie and Honka (2003), Ellström (1992) describes competence as the potential capacity of an individual or collective to successfully handle certain situations or accomplish a certain task or job according to formal or informal criteria imposed by one or more parties. This capacity is determined by observable motor skills (i.a. dexterity), cognitive factors (knowledge in its various forms, intellectual skills), affective factors (i.a. attitudes, values and motivation), personality traits (i.a. self-confidence) and social skills (i.a. communication skills and interpersonal skills). Vocational competence may thus be defined as:

- i. the match between individual or collective capacity and the demands of a given situation or task
- ii. knowledge and intellectual skills (e.g. inductive-logical ability) and non-cognitive skills (e.g. motivation, self-confidence)



- iii. capacity, which is a function of the aforementioned five competence groups
- iv. preferably potential than actual competence, in other words capacity, which in fact is only utilized subject to certain conditions, e.g. when the task is a challenging one or the job entails sufficient autonomy (Ruohotie & Honka 2003, 54).

Antwell has criticized Ellström's (1992) interpretation of the concept of competence, opining that its use in the manner defined by Ellström leads to confusion due to the different conceptual meanings associated with "the nature of competence". According to English views, competence should be construed as the ability to accomplish tasks assigned by the organization according to certain criteria, whereas Germans construe competence as an individual characteristic having to do with knowledge and skills, and they also incorporate professional identity in competence. (Ruohotie & Honka 2003, 56).

Drexel (2003) concurs with Antwell, stating i.a. the following when addressing the five key elements of competencies in the practices of various countries:

- 1) The competence-concept is output-oriented. The competence-concept asks for procedures for identifying and assessing the results of learning processes that can make them visible. Such procedures and their institutional and financial bases are either newly created or existing structures are elaborated for that purpose:
  - i. In the UK, the Thatcher government has created the NVQ system with a complex organisational structure for the assessment of about 800 officially recognized competences and for their classification according to their efficiency in work process at five levels.
  - ii. In Germany, actually many research and development projects try to define methods of assessment and certification of all kinds of competences.
  - iii. In France, such procedures can build upon the fundamentals of the existing bilans de compétences which in the early 90s began to be used in some big companies for certain purposes of their Human Resource policy and for some social goals. Later on, when the competence concept was appropriated by the employers organisation and functionalised for an aggressive restructuration policy – we will come back to this in detail further on – , the system of bilans de compétences was elaborated according to these goals.

The remaining four elements of competence are defined as follows by Drexel:

- 2) In contrast to the qualification concept that is oriented towards societally organized and regulated learning processes (at the University, in apprenticeship, etc), the competence-concept is output-oriented. Questions of the organisation and quality of the learning process are irrelevant – what counts is the outcome.
- 3) A third basic element of the competence-concept consists in the fact that it

devaluates knowledge and formalized qualification in favour of experience, and that it attributes a central role to immediate operability of workforces competences.

- 4) The competence concept includes not only formal and informal knowledge and skills but also personal values, motivations and behaviour.
- 5) The concepts aim at and imply the individualisation and *fragmentation of learning results* leading to an unlimited quantity of atomistic, very narrowly cut competences – a goal that replaces the holistic concept of qualification that was promoted since the 60s and the 70s. These atomistic competences can be combined in absolute flexibility: The vision is an unlimited variety of *patchwork profiles* that can substitute the traditional structure of workforce categories (technicians, engineers etc.) whose qualification profiles are roughly determined by formalized learning tracks regulated by society and by its dominant patterns of work organisation. Even though specialized professionals were required, the fundamental demand in the world of work is for a broad education combined with a personality that is strong, capable of taking initiative and action, and capable of analytically justified decisions. (Drexel 2003).

Inputs are also examined by Kankaanpää (1997, 14) who sees the introduction of the competence concept to have to do with a change in the focus in education in a situation involving a shift from input examination to output evaluation. The change in perspective may seem minor, yet it is of great significance. Whereas the qualification perspective stresses the importance of school and education as the conveyor of professional skills and knowledge, the competence perspective highlights the student's learning and responsibility for that learning.

In their extensive online article, Juceviciene and Lepaite (2005) discuss the relationship between qualification and competence: can the activities of the individual make room for competence alongside qualification?

The structure of the comprehensive competence concept is presented in Figure 6:



FIGURE 6 Structure of the comprehensive competence concept (Juceviciene & Lepaite 2005)

Figure 6 demonstrates the diversity of the competence concept. In this figure,

competence means the same as the concept of skill set used in this study, encompassing both competence and attitudes.

Juceviciene and Lepaite furthermore discuss the causal relationships of the practices in various countries, holding that epistemologically, the competence concept can be identified with the qualification concept, the latter being a formal confirmation of a given level of education achieved in an educational institution.

The background of the competence concept has mainly been addressed in the Anglo-Saxon world, i.e. the US and UK. The term qualification has been preferred in Germany. The difference in the use of the concepts derives from different professional education traditions in Anglo-Saxon and Germanic countries. More recent research nonetheless shows integration of the concepts, owing to which the difference between the concepts of competence and qualification is no longer so essential but instead uniformity is being seen. Regardless, the competence concept is closer to the world of activity and used when human skills are highlighted in professional activity. The qualification concept should be used when educational objectives are or have been achieved as a consequence of educational processes.

Although these remarks help to neatly separate the concept of competence and qualification, however, they do not explicitly show differences in content. In the context of learning goal taxonomy (Bloom 1956, see chapter 2.2.1 for more detail), the concept of knowledge is understood as the ability to reproduce in someone's memory knowledge obtained earlier in the context of learning or for the purpose of identifying a fact. This is the most elementary stage of learning for activity.

In addition, Juceviciene & Lepaite (2005) define the various levels of competence from a hierarchical perspective as follows:

- i. The behaviour competence is necessary for the operational work performance (the first level of activity). It must satisfy the demands of the workplace and it has to be formed of clearly defined constituent parts. In other words, it is referred not to the competence but to the separate competencies.
- ii. The added competence, based not only on behaviour but also on certain knowledge, is necessary for the work improvement (the second level of activity).
- iii. Integrated competence is necessary for the change of the internal and external work conditions; it is based on the integrity of behaviour and knowledge that conditions the essential change of activity.
- iv. The holistic competence is necessary for the new work development and the transfer of qualification to new situations. It is conditioned by holistic approach to education.

The following Figure 7 aims to describe the relationship of qualification and competencies to work and employee characteristics:



FIGURE 7 Professional skills, qualification and competence (Helakorpi 2005, 62: modified from Keurulainen 1998)

Qualifications are not stationary, instead changing and gaining different qualitative emphasis in different professions. One speaks of qualification theses, involving an examination of qualification during three stages of development: handicraft, mechanized work and automation-related work. Dequalification refers to an initial decline in demands, yet new demands arise with mechanization and automation. The polarization thesis has to do with polarization, i.e. the decline of professional skill demands in certain professions resulting in work demanding only little professional skill. The demands again rise during requalification. (Toikka 1982, 27).

Like qualification demands, competencies also change. The term competency life cycle is used. Certain fundamental competencies are required irrespective of technology, and they have a long life cycle, while there are also short-term technology-dependent competencies that always arise in connection with new products or services. Competencies dependent on or independent of job or organization can be grouped in the manner presented in the following Figure 8:

	Independent of organization	Organization-specific
Independent of job	<p><b>METACOMPETENCE</b> Generalised knowledge and skills that can be utilized in numerous different jobs - language skills, communication skills, cooperation, planning, learning</p>	<p><b>INTRA-ORGANIZATIONAL COMPETENCE</b> Aims, strategies, internal division of labour, ambience, interaction networks, informal organization and history of a given work organization</p>
Job-specific	<p><b>TECHNICAL COMPETENCE</b> Central industry-specific knowledge and skills that allow performance of key professional duties</p>	<p><b>UNIQUE COMPETENCE</b> Knowledge and skills relating to organization-specific technology, work processes, products, services, rules and routines.</p>

FIGURE 8 Various competences (Helakorpi 2005, 64)

Education and the world of work often engage in dialogue concerning the teaching of these competencies. Both are needed: in entrepreneurship education, for example, basic education can provide the general skills while the profession-specific skills are obtained in further and continuing education. (Helakorpi 2005, 64–65).

Alongside the above comparisons, the competence concept can furthermore be fleshed out from the viewpoints of personal status, the future and insight.

The article by Singer (2005) interprets the complexity of competence as follows:

- i. Competence is a truly complex personal state involving dispositions and powers and derivatives.
- ii. Competence involves more than knowledge, and different characteristics can be a component of competence. Singer's own competence concept approaches the concept of successful action. (Singer 2005).

Kupferberg (2003) seeks to assess competence needs in the future and states:

- i. Creativity will become more important than competence.
- ii. The educational system is facing a new kind of transition, which will be far more radical than the one suggested by the competence concept. It would be advantageous to start a timely discussion of the types of education we will need in the society of the future. (Kupferberg 2003).

Munch and Jakobsen (2005) examine competence needs in business and state that competence has become a significant focus in educational policy as well as industrial policy in recent years. Formerly, discussions concerning evaluation of educational effectiveness have concentrated on such concepts as 'qualifications', 'understanding' or 'abilities'. In evaluation research, it is practically impossible to distinguish the concept of 'qualification' from the concept of 'competence', since the multiple actors involved in evaluation use an accommodated every-day language that produces widely diverging vocabularies, often using the terms 'qualification' and 'competence' interchangeably. A discrepancy would seem to be developing between what is honoured as good school performance and good business performance. The perspectives and valuation of learning applied during formal engineering education differ from the perspectives and valuation in business practice.

Competence has the following basic characteristics:

- i. It is relational and contextual, i.e. it is a perspective on personal performance in a specific context. It involves a person and a context - an organization with norms, values, instruments, aims, intentions, etc.
- ii. Competence involves the process of realization, and therefore the resources involved in realization: to create conditions and argue relevance, one must possess attitudes, motives, will power, drive, intuition, communicative skills, etc.
- iii. Competence is knowledge, skills and abilities in a form and structure

that individuals use in practical problem solving. This implies that competence relates to an authentic practice (distinguished from a designed practice). (Munch & Jakobsen 2005).

### 2.1.3 Supplementary examinations in literature of the concept of competence

In addition to the above interpretations and comparisons thereof, literature also contains examinations in some respects similar to the above but clearly less future-oriented. The following are some examples:

- i. Competence refers to the skills of the employee (abilities and characteristics) to perform a certain task. Competence is a functional concept.
- ii. Personal competence arises from a persons' ability to act and skills in making the right decisions.
- iii. Competence can also be divided into knowledge-based and social competence.
- iv. In the context of job description, the subtypes of competence might be formal, actual, officially required, job-required and utilized competence.
- v. In learning software, competence for now is understood as knowledge-based consequences of learning. (Vilpponen 2004, 6).

The concept of skills, i.e. the competencies and attitudes involved, is very broad and can only be superficially addressed empirically. In principle, it can be said that competence is enhanced by all knowledge and knowhow not possessed by others. Some areas of knowhow are by nature very close to the knowhow exploited in business, while on the other hand rare and seemingly non-business related knowledge or knowhow may suddenly prove to be a revolutionary business opportunity. (Lehtonen 2002, 11).

Descey & Tessaring (2001, 12) have stated that competence has become the central concept to describe professional skill and is already replacing qualification. Competence is now sought through education instead of qualification. When young people seek their place in the world of work, competence has become their most noteworthy characteristics amid the change in the organization of work and in the context of socioeconomic crisis.

Heikkinen (2003, 42) finds the concept of competence to be more substantive and specific concept than qualification, one used to express the suitability of the type and nature of activity to performance of the task assigned.

Ruohotie and Honka (2003) define competence as an individual characteristic which causally explains efficiency or success in job duties and situations as defined by certain criteria. Competencies can be motives, personality traits, self-perceptions, attitudes, values, knowledge and cognitive and practical skills. They can be any individual characteristic which can be reliably measured and evaluated, and which can be shown to clearly differentiate between good and average performers or efficient and inefficient performers (Williams 2002, 103). Top-of-the-line expertise is possible only if the individual possesses the competencies required for performance of high standard (Ruohotie & Honka 18, 2003).

Voorhees (2001) defines competence as a combination of skills, abilities and knowledge needed to perform a specific task. Voorhees also puts forward a competency model (conceptual learning model), in which conceptual learning is described as a series of rungs within a pyramid, as presented in Figure 9:

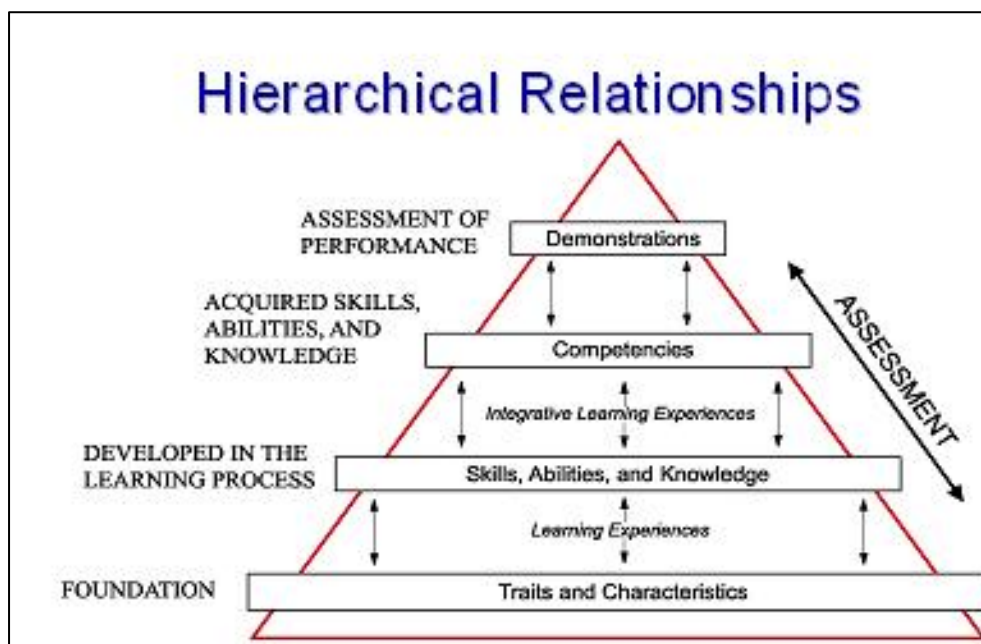


FIGURE 9 The ladder of learning according to Voorhees (2001)

The first rung consists of trait and characteristics. It forms the foundation for learning and describes an inner readiness on which subsequent experiences are built. Different starting points explain why different people experience things differently and acquire different knowledge, skills and abilities with different emphases.

The second rung consists of skills, abilities and knowledge, which develop as a consequence of learning experiences garnered in education, the world of work and society. Competencies arise from the basis of integrative learning experiences, and combine mutually interacting skills, abilities and knowledge. Competencies allow the performance of job-related tasks. Demonstrations in competence-based qualifications, for example, involve the application of competencies in practical tasks. (Ruohotie & Honka 2003, 20, see Voorhees 2001). Competence is an area of knowledge or skill that is crucial to the production of central outputs. According to Voorhees, competencies can be grouped into generic categories, such as general, management skills, distribution methods and presentation methods, which helps to demonstrate the relationships between certain competencies. (Voorhees 2001).

#### 2.1.4 Practical applications of the concept of competence

Sveiby (2001) seeks to provide an exhaustive study of the forms of information and competence transfer that affect the formation of knowledge in a business and its utilization in the strategy process. What are the conceptual differences be-

tween knowledge management, information management and competence management? According to Sveiby, knowledge is a cognitive concept, information a technical concept and competence a functional concept. Information is transferred and a human being forms knowledge based on it, a personal interpretation of reality. Competence is rarely discussed in the philosophy of science. If knowledge formation is addressed based on Plato's theory of knowledge, practical issues may well prove wholly elusive.

Sveiby holds personal competence to arise from a human being's ability to act, from a readiness to make the right decisions. Competence is also created by the organization, its culture and structures. The transfer of knowledge, the concepts of sticky and fluid knowledge, well describes the mobility of knowledge. Teaching orientations have changed relative to knowledge: a shift from transfer of knowledge to formation of knowledge via exchange of knowledge. A central element in this change has been the idea of interaction.

Students today often possess more knowledge about certain topics than their teachers. Discussions provide a forum for the construction of knowledge. This also allows the exchange of important tacit knowledge never printed in books. The most important prerequisite for sharing tacit knowledge (see 3.3) is trust. Knowledge remains an asset. Knowledge should multiply for the benefit of all when shared. The question arises whether people are sharing the right knowledge, whether teamwork is real. Knowledge is also shared in networks, where learning from others also takes place, but the key issue is trust in the partners.

On the other hand, the problem may present as competence existing and its transfer being desired, yet not accomplished. Can enterprises afford to lose older employees who possess the practical and experience-based knowledge they wish to share with their juniors? Knowledge-sensitive enterprises appreciate the value of old and unwritten knowledge. Theoretical problem-solving ability is not enough; it takes experience to perceive the similarities and disparities of situations. Often, it boils down to cost. Hiring young people costs less, besides which they bring into the organization the most up-to-date knowledge that is also needed.

The transfer of knowledge from individual to outside the organization and vice versa should augment the organization's knowledge and the individual's competence. Partners and customers, the entire chain down to sub-contractors, must be taken care of. Job rotation can help in e.g. vocational education to understand the reasons for a customer's complaint or desire that a certain task be handled in a certain way. (Sveiby 2001).

Nonaka (1991, 239-275) in turn stresses the significance of emotion. According to Nonaka, it is important to give people a mission and space to reflect on new knowledge, as knowledge stirs emotion and emotion changes the nature of knowledge. Knowledge thus cannot be the same to everyone, which is why successful collaboration calls for values, respect and experience. It is good to be present, to converse with people, to share experiences, to meet different people in different situations and settings, and to respect the competence of others on all levels.



### 2.1.5 Synthesis on the concept of competence

Skill, qualification, ability, capacity, effectiveness and proficiency are integral elements of the concept of competence, which is an amalgam of knowledge, behaviour, attitudes and values and refers to mastery of a certain skill, such as learning or reaching goals. Competence is also linked to creativity, innovativeness, flexibility, endurance and accuracy and precision. The usage of the concepts competence and qualification has been wavering and no consensus has been reached regarding the semantic content of the two (Ruohotie & Honka 2003; Antwell 1997; Drexel 2003; Juceviciene & Lepaite 2005; Descey & Tesaring 2001; Heikkinen 2003). Competence may thus be taken to mean either a characteristic of the individual or the requirements of given tasks.

The significance of creativity will in future surpass that of competence, behoving us to address the issue of the types of education required in the future; whether we will be able to discern in time the difference between good school performance and good business performance. (Kupferberg 2003). Insight is an integral element of competence, bringing into play such characteristics as willpower, intuitive thinking, spirit and communication skills, which impact on ability to manage practical problem-solving situations. The ability to learn from experience is valued and taken as part of the broader learning process. (Munch & Jakobsen 2005).

A proper understanding of the importance of outcome and end result permits an output orientation. The focus in valuating learning results in future will be on individuality and fragmentation, the vision being an unlimited range of patchwork profiles that substitute the holistic competence concept. In education, this translates into a farewell to traditional workforce categories. Despite the need for specialized professionals, the primary concern in working life will be on broad-based education linked to a personality that exhibits strength, individual initiative, independence and the ability to reach analytically justified decisions. (Drexel 2003).

Educational orientations have changed and due to interactive education, the transfer of knowledge has metamorphosed from the exchange of knowledge into the formation of knowledge. Discussion gives rise to a forum of knowledge in which tacit knowledge, the kind not available in books, is also exchanged. The most important precondition to the sharing of tacit knowledge is nonetheless trust. Knowledge should increase for the benefit of all, yet truthful knowledge is not necessarily distributed. The knowledge passed on in networks in particular is subject to trust. Despite the existence of and the desire to transfer knowledge and competence, ultimately these do not transfer. Tacit knowledge seeps out of enterprises i.a. along with retiring employees. (Sveiby 2001).

TABLE 1 Key interpretations of the concept of competence

Helakorpi, S. (2005)	Munch B & Jakobsen A (2005)	Drexel, I. (2003)	Kupferberg, F. (2003)	Singer, R. (2005)	Ruohotie, P. (2002b)	Voorhees, R. (2001)	Juceviciene, P. & Lepaite, D. (2005)	Ellström, P.-E. (1992)
1. Competence means the skills of an employee (abilities and characteristics) to perform a given job task.	1. Competence is relative and contextual.	1. The competence concept is output oriented.	1. Creativity will be more important than competence in the society of the future.	1. Competence consists of more than knowledge.	Skill profile of the expert: 1. Profession-specific knowledge and skills	1. Competence is the combination of skills, abilities and knowledge.	1. Epistemologically, the competence concept may be identified with the qualification concept.	1. Competence is the potential capacity of the individual to successfully address certain situation and perform a certain job or task.
2. Competence is personal expertise.	2. Competence is a perspective into personal performance taking place in a certain context.	2. Competence focuses on the results of any visible learning process.	2. In the future, education will be based on research rather than the competence concept.	2. Any personal characteristic may be a part of competence.	2. General skill sets for the world of work: - cognitive skills - social skills - media competence - creativity and innovation - leadership and management skills	2. Competence model = conceptual learning model: 1st rung: personality traits and characteristics 2nd rung: skills, abilities and knowledge	2. Competence cannot be achieved through formal verification by an educational institution.	2. Capacity is defined by observable - motor - cognitive - affective personality traits - social skills
3. A person may possess competence for several job tasks.	3. Competence involves the process of realization.	3. Competence values experience over knowledge.		3. Competence is closely related to successful activity.	3. Self-regulatory skill sets promoting professional development: - achievement orientation - orientation to self	3. Competencies arise from integrative learning experiences.	3. Competence is a hierarchical structure	

Helakorpi, S. (2005)	Munch B & Jakobsen A (2005)	Drexel, I. (2003)	Kupferberg, F. (2003)	Singer, R. (2005)	Ruohotie, P. (2002b)	Voorhees, R. (2001)	Juceviciene, P. & Lepaite, D. (2005)	Ellström. P.-E. (1992)
					- orientation to others - activity control strategies, areas of interest and style structures			
	4. Competence equals 'knowledge, skills and abilities' in a combination needed by individuals for practical problem-solving	4. The competence concept includes not only formal and informal knowledge and skills but also personal values, motivations and behaviour.				4. Competencies allow the performance of job-related tasks.	4. Competence consists of levels: - behavioural competence - added competence - integrated competence - holistic competence	
	5. Competence involves authentic practice (distinguished from designed practice).	5. An atomistic competence concept will replace the holistic concept of qualification.				5. Practical application of competencies = demonstration		
		6. An unlimited number of patchwork profiles will substitute the traditional structure of workforce categories						

## 2.2 Bloom's taxonomy – cognitive, psychomotor and affective domains and active verbs

Bloom's taxonomy is a categorization of expertise and learning made up of knowledge, skills and attitudes (Hukari & Nuoreva 2003) which constitutes the theoretical framework underlying the DACUM model. Part I of the *Bloom's Taxonomy of Educational Objectives* was published in 1956 under the leadership of American scientist and education expert Dr. Benjamin S. Bloom (1913–1999). Handbook I focused on the cognitive domain. Besides Bloom, the team of researchers comprised Engelhart, Furst, Hill and Krathwohl. Handbook II, published in 1964, dealt with the affective domain and its authors besides Bloom were Krathwohl and Masia. The final Handbook III concerning the psychomotor domain was influenced by Bloom in respect of fundamental concept, yet several versions exist, the best known being those by the following authors: Dave (1967 & 1970), Simpson (1966 & 1973) and Harrow (1972). (Chapman 2005).

The three domains in Bloom's taxonomy are as follows:

- i) Cognitive domain, referring to intellectual abilities i.e. knowledge and thought.
- ii) Psychomotor domain, referring to manual and physical tasks and functions.
- iii) Affective domain, referring to emotions, feelings and behaviour, i.e. attitude.

In brief, the taxonomy is defined as knowledge-skills-attitudes, i.e. the verbs to think-to do- to feel. An essential element of Bloom's taxonomy is the use of **active verbs** describing the level of a person's thoughts and actions. These verbs are utilized in formulating goals. (Hukari & Nuoreva 2003).

The domains in Bloom's taxonomy are presented in a simplified grouping in the following Table 2:

TABLE 2 Domains in Blooms' taxonomy (Bloom 1956, Dave 1967 & 1970)

Cognitive domain knowledge	Psychomotor domain skills (tasks & functions)	Affective domain attitude
1. Recall data	1. Imitation (copy)	1. Receive (awareness)
2. Understand	2. Manipulation (follow instructions)	2. Respond (react)
3. Apply (use)	3. Develop precision	3. Value (understand and act)
4. Analyze (structure/elements)	4. Articulation (combine, integrate related skills)	4. Organize personal value system
5. Synthesize (create/build)	5. Naturalization (automate, become expert)	5. Internalize value system (adopt a behaviour)
6. Evaluate (assess, judge in relational terms)		

In this classification in 2001, Anderson and Krathwohl reversed the cognitive categories 5 and 6, i.e. synthesis and evaluation. They also developed a new and more multifaceted version of Bloom's taxonomy, which nonetheless will not be addressed in this research. The psychomotor categories are based on that modelled by Bloom's student Chapman in 1967 and on a conference paper from 1970. (Chapman 2005).

### 2.2.1 Cognitive domain

Since Anderson and Krathwohl in 2001 reversed levels 5, Synthesis and level 6, Evaluation, the order of the two depends on the situation at hand. The following Table 3 presents the levels in the cognitive domain of Bloom's taxonomy: intellect - knowledge - 'to think'. (Chapman 2005). In this table, synthesis comes before evaluation.

TABLE 3 Levels in the cognitive domain of Bloom's taxonomy (Bloom & Krathwohl 1956)

<b>Levels in the cognitive domain of Bloom's taxonomy (intellect - knowledge-'to think')</b>				
<b>Level</b>	<b>Category</b>	<b>Description</b>	<b>Examples</b>	<b>Keywords</b>
1	Knowledge	Recall or recognize information	Recount, quote, recall rules	Define, describe, list, memorise, select, state
2	Comprehension	Understand meaning, restate, interpret, extrapolate	Explain or interpret, suggest treatment or solution	Explain, reiterate, review, classify, estimate, report, paraphrase, interpret, theorize, reference
3	Application	Apply knowledge, put theory into practice, use knowledge	Put a theory into practical effect, demonstrate, solve a problem, manage an activity	Use, apply, discover, solve, prepare, execute, produce, perform,
4	Analysis	Interpret principles, structures and internal relationships of an organization	Identify constituent parts of process or concept, make qualitative assessments	Analyze, catalogue, compare, measure, test, experiment, break down, quantify, divide
5	Synthesis	Develop unique structures, systems, ideas	Develop plans or procedures, design solutions	Develop, design, build, create, organize, re-arrange, assemble, integrate, modify

Levels in the cognitive domain of Bloom's taxonomy (intellect - knowledge-'to think')				
Level	Category	Description	Examples	Keywords
6	Evaluation	Assess effectiveness of whole concept, critical thinking, comparison	Review strategic options, plans, perform SWOT analysis, produce comparisons	Review, assess, defend, report, investigate, direct, justify, argue

The first level in the taxonomy of the cognitive domain is recall, which refers to objectives highlighting remembered knowledge. As one progresses down the list in the taxonomy, one moves to gradually more and more demanding cognitive objectives.

### 2.2.2 Psychomotor domain

The psychomotor domain of Bloom's original research team dealt with manual and physical tasks and functions. Today, it also extends to business and social skills, such as communication and IT skills, e.g. the use of telephones or computer keyboards. Dave's version of psychomotor skills is the more pragmatic one compared to those of Simpson and Harrow. Simpson's interpretation differs from Dave's mainly in that it contains two additional levels preceding imitation, which in Dave's version are for all intents and purposes incorporated in that level. (Chapman 2005). The following Table 4 presents the levels of the psychomotor domain of Bloom's taxonomy: physical - skills - 'to do' as Dave's version. (Chapman 2005).

TABLE 4 Levels of the psychomotor domain in Bloom's taxonomy (Dave 1967 &amp; 1970)

Levels of the psychomotor domain of Bloom's taxonomy (physical - skills - 'to do')				
Level	Category	Description of behaviour	Examples	Keywords
1	Imitation	Copy action of another, observe and replicate	Watch teacher or trainer and repeat action, process or activity	Copy, follow, replicate, repeat, adhere
2	Manipulation	Reproduce activity from instruction or memory	Carry out a task from written or verbal instructions	Recreate, build, perform, execute, implement
3	Precision	Execute skill reliably independent of help	Perform a task proficiently without aid or instruction, demonstrate to others	Demonstrate, complete, show, perfect, calibrate, control
4	Articulation	Adapt and integrate expertise to satisfy a non-standard objective	Combine mutually consistent activities to satisfy new demands	Construct, solve, combine, integrate, coordinate, adapt, develop, formulate, master
5	Naturalization	Automated unconscious mastery of activity and related skills	Have a precise aim, procedure and strategy for fulfilling a strategic need	Design, specify, manage, invent, project-manage

### 2.2.3 Affective domain

The affective domain in Bloom's taxonomy describes attitudes and values. In modern research, it is often described with the word 'beliefs'. The following Table 5 presents the various levels of the affective domain: feelings - attitude 'to experience'. (Chapman 2005).

TABLE 5 Levels of the affective domain in Bloom's taxonomy (Krathwohl, Bloom & Masia 1964)

Levels of the affective domain in Bloom's taxonomy (feelings - attitude 'to experience')				
Level	Category	Description of behaviour	Examples	Keywords
1	Receive	Open to experience, willing to hear	Listen to teacher/take notes, participate passively	Ask, listen, focus, take part, acknowledge, follow, read, do, feel
2	Respond	Respond and participate actively	Participate actively, interest in outcomes, enthusiasm	React, seek clarification, interpret, clarify and provide examples, help team, contribute,
3	Value	Attach values, express personal opinions	Decide worth and relevance of ideas, accept or commit to action	Argue, challenge, refute, confront, justify, persuade, criticize
4	Organize or conceptualize values	Reconcile conflicts, develop value system	Qualify and quantify personal views, state beliefs	Build, develop, formulate, defend, modify, prioritize, reconcile, arrange, compare
5	Internalize or characterize values	Adopt belief system and philosophy	Self-reliant, behave consistently	Act, display, influence, solve, practice

This domain is more difficult to understand than the other two. The differences between levels 3, 4 and 5 are subtle and not nearly as clear as in the other two domains.

While not absolute, the classification in Bloom's taxonomy is a practical tool for determining the knowledge objectives of subjects taught. Since the essential aspect of describing learning and expertise is the use of active verbs, the significance of these is underscored i.a. in the DACUM model. Verbs describe the levels of thought and cognitive function, which trains students in multi-level thinking. Thinking skills develop if learning is also a versatile activity.

### 2.3 The DACUM model - an application of the Bloomian approach

The 1960s were an era of considerable advances in education in Canada, especially in the sectors of vocational education and training. Greater emphasis on the subject matter was underscored by a focus on innovation i.a. in the education of vocational subject teachers, the development of curriculums and teaching methods. A systematic approach to occupation and job analysis especially



in fields amenable to apprenticeship training had already earlier been adopted in Canada. Work had also begun on defining and charting the core skills common to several distinct occupations. The birth of DACUM falls into this period of time. (Coffin 2002, 1; Glendenning 1995, 3).

The acronym DACUM (from Developing a Curriculum) was coined by the Canadian Howard Clement, who worked in the Department of Regional Economic Expansion that overseeing innovative training centres across Canada. Clement was on the search for innovative approaches to curriculum development and, and Dr Oliver Rice Women's Job Corps Training Center in Clinton, Iowa forwarded to him a one-page summary on the center's curriculum. (Coffin 2002, 1; Glendenning 1995, 7-8).

Robert Adams, one of the contributors to vocational education and thus DACUM in Canada, recounts his discussions with Rice and Clement:

"... many ideas were put forth in brainstorming sessions but no single title or acronym had full agreement. Designing a Curriculum and Developing a Curriculum appeared to have the most support. Following the meeting, likely when preparing the minutes, Clement settled on Designing A Curriculum and DACUM was born; Adams' notes of the meeting show 'Developing A CURriculum' and hence the origin of 'Developing versus Designing'." (Glendenning 1995, 11).

The DACUM described in this study must nonetheless be deemed the product of work done by Robert Adams at Nova Scotia NewStart Corporation located in Yarmouth, Nova Scotia. Adams<sup>1</sup> developed an approach subsequently adopted by Holland College in Charlottetown (P.E.). Adams describes DACUM as a "single-sheet skill profile that serves as both a curriculum plan and an evaluation instrument for occupational training programs. (Coffin 2002, 1; Glendenning 1995, orig. Adams 1975).

From the outset, DACUM was more than an analysis method based on competences and attitudes. It was a way of determining and developing the curriculum, of guiding and managing learners and of monitoring their progress both during the training and at work.

Adams describes the learning principles on which the DACUM process was built: "It allows immediate feedback of results to the trainee and the immediate analysis of program strengths and weaknesses. Positive communication takes place between instructor and trainee. The learner also has the opportunity for self-evaluation, self-planning and goal-setting. The learning environment is interesting, efficient and practical, yet unstructured. The onus for evaluation and qualification is on the trainee. There is a positive relationship between training evaluation and the type of evaluation normally made by employers. In addition, there is an entry measure which takes into consideration the trainees' previous training and experience and allows them to proceed from their own appropriate points of departure." (Coffin 2002, 2; orig. Adams 1975).

The characteristics of the DACUM process according to Adams (1975) are described in Table 6:

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<sup>1</sup> Adams, R.E. Building Competency Models, Source and Date unknown but likely in the mid-1970s.

TABLE 6 Characteristics of the DACUM process (Coffin 2002, 3; orig. Adams 1975)

	Replication, or reasonable simulation, of the job situation
	A curriculum that is a description of terminal behaviour after completion of training
	A self-determining or self-directing attitude towards learning
	A program completely individualized to accommodate and take advantage of individual differences in adult learners
	Trainee selection of goals and sequencing of activities
	Trainee evaluation, and promotion of confidence in this evaluation, by avoiding imposition of instructor's evaluation
	Evaluation based on performance rather than on retention of information for test purposes
	Avoidance of necessity to continue program learning for skills already acquired

In the spring of 1970, Holland College, a community college of technology and applied arts, adopted the DACUM approach to occupational analysis for curriculum development and its approach to training. It was the first college to implement the DACUM concept in an institutional setting. From a small beginning of only four programs at the post secondary level, the college gradually implemented the DACUM approach to all of the 60 programs offered. Holland College is a recognized leader, both nationally and internationally, in competency based education. Over time, DACUM has become a vary important tool for the development of programs at educational institutions, as well as in human resources and training departments at companies in Canada and the world over. (Coffin 2002, 4).

The DACUM model (Coffin 2002, 9-10; Glendenning 1998, 10) is built around general areas of competence (GAC), each of which involves different skills. General areas of competence can be divided into 1) factual general areas of competence, i.e. general areas of competence vital to an occupation or job duties, and 2) general areas of competence based on personal skills, which are a part of a person's overall personality, such as traits, attitudes, values and motivation.

General area of competence equals the key competences in the European Commission's recommendation on key competences (EU 2004) and the core expertise in the framework concerning European expertise, making the general areas of competence in the DACUM analysis comparable to both. Besides specific knowledge, the general areas of competence may also comprise tacit knowledge that manifests in the context of the work. Every employee and business possesses individual and collective tacit knowledge. (Polanyi 1962; Alvarez & Busenitz 2001, 762; Barney 1991). The theoretical framework for the DACUM model is provided by Bloom's (Bloom 1956; Bloom & Krathwohl 1956; Krath-

wohl, Bloom & Masia 1964; Dave 1967 & 1970) taxonomy, in which factual skills correspond to cognitive and psychomotor skills while personal skills mainly correspond to affective skills. (Allahwerdi, Hietaharju, Kolstela & Laikio 2006, 11).

Once the competence and skill chart for the occupation analyzed has been constructed in the seminar of experts, the GACs and skills can be defined as different levels of competence and attitudes: can perform the task but requires supervision; can perform the task but requires periodic supervision; can perform the task without supervision; can perform the task with adaptability to special problem situations and lead others in performing the task. Individuals are evaluated based on how well they are capable of applying their skills. This is based on observation of performance by using the evaluation scale determining level of competence and attitude. GACs and skills may be cognitive, affective, psychomotor or combinations of the three.

In most cases, the analysis identifies several job classifications within an occupation or field. Profiles identify the particular skills required for a specific job classification. For example, in the fields of electronics technology, there are several job classifications such as electronic technologist, radio and TV technician, etc. This identification prioritizes the skills to be acquired by the learner as well as identifies the work entry skills required for the job classification. Profiles may also be used the criteria upon which a certificate is awarded.

In this research, the DACUM model is used as a research data collection tool, and the data obtained is used in analyzing the skills of small business entrepreneurs. While not absolute, the DACUM model is a practical tool for preparing a job analysis chart on small business entrepreneurs. The essential aspect of describing expertise is the use of active verbs, which reflects the levels of thought and cognitive function. This provides training in multi-level thinking. The job analysis consists of breaking down the work into knowledge, skills and attitudes that directly correspond to Bloom's taxonomy. It is not a means of psychological testing but rather a quick and quite reliable method of analyzing different occupations and professions.

### **3 ENTREPRENEURIAL ACTIVITY FROM THE PERSPECTIVE OF SKILLS**

Chapter 3 builds a framework for small business entrepreneurial skill sets based on the expertise needs of business and industry. This framework is based on the one hand on conceptual theories of the entrepreneur and entrepreneurship, on the other on earlier research concerning entrepreneurial skill sets. Entrepreneurial activity, from the perspective of skills, poses demands on entrepreneurship education and training, the vision of which is examined at the end of the Chapter.

#### **3.1 Concepts of entrepreneurship and entrepreneur**

##### **3.1.1 Interpretations of the concept of entrepreneurship**

Entrepreneurship lacks a distinct scientific background of its own, being instead described in several disciplines from individual premises. The scientific approaches to entrepreneurship are based on economics, sociology and psychology. Today, entrepreneurship is often also addressed in the educational sciences. (Gibb 2005, 46; Kyrö 1998, 11–12; Koironen 2000, 14; Casson 2003, 9). In several microeconomic theories, entrepreneurship does not even rate a mention, as it is deemed irrelevant to neoclassical economics (Hebert & Link 1988, 156–157; Baumol 1993, 14). Nonetheless, the concept of entrepreneurship has a long history in economics, stretching all the way back to Cantillon in the early 1700s (Hebert & Link 1988, 19–28; Barreto 1989, 35; Kyrö 1998, 41–42), to Smith in the late 1700s (Cameron 1995, 239–246; Lahti 1991, 146; Kyrö 1998, 45–46) and Say in the early 1800s. (Kyrö 1998, 44).

A wider understanding of entrepreneurship extends the concept to more than owner/operators only. The traditional entrepreneurship theory almost universally limits the role of entrepreneur in the enterprise to activities taking place within the enterprise, although economists do occasionally acknowledge that entrepreneurial behaviour can also manifest elsewhere and especially in the public sector. (Bridge et al. 1998, 35; Wilson 1998, 8; Montanye 2006, 2). In-

dependent entrepreneurship indeed refers to entrepreneurial action by an individual. It is the oldest form of entrepreneurship, which has always been based on the free and unique individual entitled to decide on the path of his or her life. (Kyrö 1998, 9). Peltonen (1986) meanwhile, in the preamble to the book *Yrittäjyys (Entrepreneurship)*, states that entrepreneurship is a mental prerequisite to enterprise. Peltonen defines external entrepreneurship as owner/operatorship, further specifying this to mean the establishment and management of an enterprise, and goes on to state that internal entrepreneurship is a quality we can all exhibit through creative, courageous, diligent, productive and determined work in both our own business and in the service of another. (Peltonen 1986, 9).

Above all, entrepreneurship as a concept entails starting and creating something new – creating something “not ready” and taking hold of something “not in existence”. (Puhakka 2003, 546, orig. Hjorth 2003). In the same vein, the European Commission sums up its Green Paper: “Entrepreneurship means the ability of individuals to transform ideas into action. It entails creativity, innovation and risk-taking as well as the ability to plan and implement projects in order to achieve objectives. Entrepreneurship supports everyone in daily life, both at home and in society, and helps employees realise the wider framework of their efforts and to take advantage of opportunities. It is also the foundation for the particular skills and knowledge required by entrepreneurs to start a social or commercial enterprise.” (Commission of the European Communities 2003).

Vesalainen (2001b) proposes three central dimensions to entrepreneurship: 1) the economic dimension, (2) the managerial dimension, and (3) the creative dimension. The functional concept of entrepreneurship can thus be defined and the manifestation of entrepreneurship can be analysed using the framework arising from these sub-sectors.

The traditional role of capitalist, owner and investor lies at the core of the **economic dimension** of entrepreneurship. Essential factors in this role include the authority to make decisions on the allocation of capital and accountability for the outcomes of the decisions, i.e. risk-taking. (Vesalainen 2001b; Koironen 2000, 12, 32). Low taxation and regulation as well as private ownership to ensure the growth of the enterprise are also factors of great significance. (Kreft & Sobel 2005, 9). It should be noted that the capital invested when taking financial risks is seldom equity but rather borrowed capital, meaning that the role of traditional capitalist is rather ill-suited to the activities of both the smallest and the largest enterprises operating with borrowed money. Nonetheless, it may be stated that risk-taking must be deemed the linking factor, as in most cases the entrepreneur must bear the risk of external capital. (Knight 1971, 268; Mises 1996, 250, 254, 290–291; Vesalainen 2001b; Laukkanen 2001).

Another key dimension of entrepreneurship is the dimension of management, wherein the entrepreneur serves to bring together production factors and organize activities. The entrepreneur in this role bringing together and organizing into an economically exploitable form both personally held resources and resources obtained from the operating environment is a key aspect of this dimension. However, bringing together and organizing the traditional production factors of capital, land and labour no longer suffices; entrepreneurship today is

fuelled by knowledge. Pooling, developing and distributing knowledge creates economically exploitable value added. The job of the entrepreneur is to bring together, develop and organize know-how in such a manner that the activities result in products and services which satisfy customer needs. The modern entrepreneur furthermore organizes networks. (Vesalainen 2001b; Scarborough & Zimmerer 2000, 648–649; Koironen 2000, 27, 72). Mises, however, wishes to distinguish between entrepreneur and manager: “The illusion that management is the totality of entrepreneurial activities and that management is a perfect substitute for entrepreneurship is the outgrowth of a misinterpretation of the condition of corporations:” (Mises 1996, 306). Mises holds that “the managerial function is always subservient to the entrepreneurial function”. Although “it is possible to reward the manager by paying for his services in proportion to the contribution of his section to the profit earned by the entrepreneur... he cannot be made [fully] answerable for the losses incurred”. Consequently, the manager’s incentives and responsibilities never fully mimic the entrepreneur’s. (Mises 1996, 306).

The third dimension of entrepreneurship, i.e. the dimension of creating something new, is based on being innovative and visionary. This makes innovation, creativity, change and the related tolerance of uncertainty values involved in entrepreneur-like activities. It is a question of initiative, positive approach to change, and the desire and ability to seek out new solutions to problems or existing ways of working. The creative role of entrepreneurship generates new business, new enterprises, growth in existing enterprises and regeneration in old enterprises. (Vesalainen 2001a; Shane & Venkataraman 2000, 217–218; Koironen 2000, 42–44). Additionally, Puhakka (2003, 553) raises the proactive envisioning of future trends, which calls for i.a. numerous social relationships. It is thus a question of birth, growth or regeneration. On the other hand, internal motivation may even jeopardize growth, as excessive internal motivation may lead to a situation where it is pleasurable to toy with ideas and innovation for which there is no demand in the market.

At present, one of the great questions of our time according to Florida (2005) is the tension between creativity and organizations, which can only be defused through entrepreneurship. The creative process is, after all, a social process instead of a purely individual process, meaning that some forms of organization are required. The rise of creativity as an economic driving force has brought out new economic and social forms that to some extent alleviate this tension, entrepreneurship being one such force. The rise of new enterprises started by private entrepreneurs, the established venture capital system, and the loosening of traditional cultural norms pertaining to life and work are indications of an attempt to be rid of constricted organizational homogeneity. (Florida 2005, 68).

The various roles of entrepreneurship are summarized below in Table 7.

TABLE 7 The various roles, tasks, objectives and challenges of entrepreneurship (Vesalainen 2001b)

Role	Task	Financial objectives	Challenges
Economic	Profitable investment of own capital or capital held; profit-oriented activities	Return on investment, result-linked reward	Locating profitable investment targets, risk management
Managerial	Combining and organizing resources (production factors) to form an efficient corporate system	Profitability, quality, customer satisfaction and similar indicators describing the efficiency of corporate processes; internal efficiency	Procurement, organization and modification of resources; ongoing development
Creative	Creating new business with the help of market information, vision and innovation	Monopoly profit, external efficiency, growth	Managing uncertainty, attaining credibility, legitimizing ideas

In summation, it may be stated that entrepreneurship refers to entrepreneur-like activity, the social task of which is to develop new expertise, direct the use of resources and expertise to profitable ventures, and to ensure that the resources deliver the best possible result for all parties concerned.

### 3.1.2 Spontaneous, internal and external entrepreneurship

In analyzing the different forms of entrepreneurship, there is a certain overlap between internal and external entrepreneurship. According to Kyrö (2004b), these three forms of entrepreneurship have evolved over time, and Kyrö groups them as follows: 1) spontaneous entrepreneurship, i.e. an individual's active and entrepreneur-like way of acting, 2) external entrepreneurship, i.e. owning and operating a small business, and 3) an organization's collective entrepreneur-like way of working. Internal entrepreneurship arises from a dialogue of these three disparate forms of entrepreneurship. (Römer-Paakkanen 2006, 197).

The most common way of construing internal and external entrepreneurship is to identify the person's relationship to the enterprise. In the case of internal entrepreneurship, the person is a salaried employee of the enterprise. If the person owns the enterprise, he possesses external entrepreneurship. (Kyrö 1998, 118; Koironen 2000, 2). The role of entrepreneur is examined from an emphatic perspective of economic activity (Campbell 1992, 22). In mapping the concept of entrepreneurship, Van der Veen and Wakkee (2004, 120) have stated that most definitions of entrepreneurship stress a focus on the pursuit of opportunity as a characteristic of external entrepreneurship. Kirzner also notes "the ability to notice - without search - opportunities that have been hitherto overlooked" (Kirzner 1979, 48). The same conclusion has been arrived at by Alvarez and Busenitz (2001, 757), Timmons and Spinelli (2007, 13), and Shane and

Venkataraman (2000, 217–218).

Characteristics of internal entrepreneurship may be enumerated as innovation and creativity, long-term accountability, goal orientation, independence, perceiving opportunities, and vision. The internal entrepreneur is often referred to as a visionary. (Koiranen 1993, 125; Pinchot 1986, 21; Gibb 1990, 54). Further attributes identified with internal entrepreneurship include initiative, activeness, commitment, self-drivenness, lifelong learning, adaptability, good work management, various abilities and skills, meaningful work, good enjoyment of work, productivity and goal-driven activity, accountability, courage and boldness, and goal-awareness. The concepts are closely linked to starting something new, initiative, independence and creativity, innovation. (Luukkainen & Wuorinen 2002, 14).

Large enterprises as well should become more entrepreneur-like and operate in entrepreneur-like networks in order to maintain competitiveness. Internal entrepreneurship is an opportunity for an enterprise that wishes to perform and have a growth orientation. According to Jennings (1994, 280–284), internal entrepreneurship means that management encourages the development of new ideas. It gives innovative people the freedom to take part in creative change. Kyrö and Ripatti (2006, 18) also state that internal entrepreneurship involves the dynamic of the individual's and organization's entrepreneur-like way of working.

The economic perspective may be wholly absent from spontaneous entrepreneurship, which equals action alone or in a group. Spontaneous entrepreneurship underscores the qualities of entrepreneur, self-perception, motivation and values, based on which choices are made and life built. Table 8 presents definitions of spontaneous, internal and external entrepreneurship:



TABLE 8 Definitions of spontaneous, internal and external entrepreneurship.

Spontaneous entrepreneurship	Internal entrepreneurship	External entrepreneurship
<p>Spontaneous entrepreneurship involves a number of qualities that reinforce a person's positive attitude to his life. It involves goal orientation, goal awareness, accountability, ability to work together, self-drivenness and the ability to form a realistic view of one's own abilities and influence (Lehtonen &amp; Vertanen 2006, 172)</p> <p>Spontaneous entrepreneurship refers to an individual's entrepreneur-like way of acting. It is the oldest form of entrepreneurship. The foundation of entrepreneurship has always been the free and unique individual entitled to decide on the course of his life (Kyrö 2005).</p> <p>Spontaneous entrepreneurship is a conscious structuring of pedagogy in such a manner that entrepreneurship – though not necessarily its economic aspect – is present in the actions of the learners, alone and in groups. (Remes 2005)</p>	<p>Internal entrepreneurship is entrepreneurship in the employ of another. The internal enterprise may legally be either fully independent or non-independent: e.g. a separate company, profit centre, development project, restructuring programme, a project for the development and commercialization of a new product, or a way of working inconsistent with the traditional concept of salaried work. (Koiranen, 1993, 13).</p> <p>Internal entrepreneurship is an entrepreneur-like way of thinking, acting and relating as a member of a workplace (Koiranen &amp; Pohjansaari 1994, 7).</p> <p>Internal entrepreneurship is a form of entrepreneurship that strives to become a part of the structures of the organization. It is the organization's activity become enterprising. (Remes 2003, 96).</p> <p>Internal entrepreneurs look for possibilities that give an opportunity to implement innovations (Hostager, Neil, Decker &amp; Lorentz 1998, 16).</p> <p>The increased decentralization of authority and accountability in the workplace increases entrepreneur-like behaviour and taking responsibility for the business among employees. (Owen, Mundy, Guild &amp; Guild 2001, 11).</p> <p>Internal entrepreneurship refers to the entrepreneur-like attitude and way of working of all members of the workplace, their active approach to customers, matters, co-workers and in general anything that they come into contact with. Internal entrepreneurship is entrepreneurship in the employ of another. The goal-oriented, competitive and financially profitable activity of the enterprise is highlighted in internal entrepre-</p>	<p>In describing the start-up of a new business, the four most important aspects of entrepreneurship come together: a) individual traits of the founder, b) organization created by him, c) operating environment, and d) process by which the new business is started. (Gartner 1985, 696).</p> <p>The idea itself does not matter. Ideas alone will not go far in entrepreneurship. The idea must first be developed, then turned into a practical application, and finally used as the foundation for building a successful business. That's what matters in entrepreneurship. (Bygrave 1994, 13).</p> <p>External entrepreneurship refers to owning and managing an enterprise. It involves numerous different functions, such as designing a business idea, marketing, managing the product and service production process, financial planning e.g. budgeting, pricing and financing, human resources management, etc. (Kyrö 2005).</p> <p>External entrepreneurship allows one to earn a living from one's own business. (Remes 2005).</p>

### 3.1.3 Various interpretations of the concept of entrepreneur

Entrepreneurship can be examined from the viewpoint of enterprise or entrepreneur, yet many scientists, such as Kyrö, associate entrepreneurship with the idea of man. This draws a picture of a unique, free, risk-taking and self-driven actor who is accountable for his own life and livelihood and who through his own actions creates wellbeing in society. Such an entrepreneur challenges old ways of working, old norms and rules, and creates new ways of working and alternative solutions to various problems and risks. The knowledge of the entrepreneur arises from life and action, and he has a holistic relationship with himself, others and the world. The levels of knowledge are that of the world, society, enterprise and individual. (Kyrö 2005).

In traditional mainstream thinking, the entrepreneur is a risk-taker who brings the various production factors together. (Henderson & Robertson 2000, 280). Armstrong (2001) instead argues that risk-taking seems the exception in establishing new businesses. Armstrong is especially critical of methodology based on psychometric research, as it establishes correlations between an individual's risk-taking and the independent entrepreneur. Armstrong introduces several empirical studies of small business entrepreneurs as well as case studies which prove that the vast majority of entrepreneurs are not risk-takers. (Armstrong 2001, 527). Huuskonen as well has studied the risk orientation of those who become entrepreneurs and notes that attitude toward risk and bearing risk are two distinct concepts. (Huuskonen 1992, 32). Controlled risk-taking is typical: the entrepreneur tolerates risk and fares better than others also in the midst of uncertainty. (Koiranen 2000, 41). The entrepreneur is, after all, faced with situations that call for both intuitiveness and analytical ability. (Koiranen 2000, 32).

The entrepreneur is viewed nowadays as a mildly heroic figure, despite having been reviled from classical antiquity until fairly recent times. The entrepreneur serves the consumer's interest by looking at things as they are and seeing profitable ways to change them for the better (Mises [1949] 1996, 336-38). He is recognized as the individual who creates society's wealth and fosters economic growth (Leibenstein 1978; Baumol 1993).

For Schumpeter, the entrepreneur was the accomplisher of economy-changing innovations and thus of creative change. The entrepreneur was less of a risk-taker or financier, a functionary managing his business for the long term, and he lacked any stable social role or occupation. With innovation, Schumpeter referred to various fundamental business alternatives, in which constant technological change was the foundation for the arising of new production processes, products and services. Entrepreneurship was a central phenomenon in this process. The Schumpeterian entrepreneur did not make a career out of entrepreneurship *per se*. Instead, he mixed entrepreneurship with other activities within the firm, earning a normal return on most labour and human capital as well as a separate, residually determined return on entrepreneurial capital. Schumpeter's entrepreneur was motivated not only by pecuniary profit and perquisites, but also by the intangible rewards stemming from a love for the

game and a desire for recognition and respect. (Montanye 2006, 5).

Koiranen (2000, 46) states that innovative entrepreneurship is most often put in motion by an entrepreneur who combines things in a new way, exploits a gap or discontinuity observed, or an entrepreneur who capitalizes on a price differential observed more cleverly and quicker than others.

Experimentation stands for daring, according to Lumpkin and Dess (1996, 146), and they define entrepreneur-like activity as proactivity. For them, it is a forward-looking viewpoint that involves innovation and creative action.

Kirzner (1973) emphasized that the entrepreneur is constantly alert to profitable exchange (arbitrage) opportunities and is the first to act when such opportunities appear. The entrepreneur's initial situation is characterized by imbalance, coloured by mistakes, lost opportunities and earlier wrong decisions (Montanye 2006, 5). Ultimately, the entrepreneur sees an opportunity, takes it and accomplishes changes leading to balance. (Koiranen 2000, 45, orig. Kirzner 1973).

Casson (2003) concludes the entrepreneur to be "someone who specializes in taking judgmental decisions about the coordination of scarce resources". His synthesis follows the convention of confining the analysis to the operations of the private sector of the economy. This narrowness is disappointing, given his recognition that, "in principle, the entrepreneur could be a planner in a socialist economy, or even a priest or king in a traditional society. In practice, though, entrepreneurship is closely identified with private enterprise in a market economy". (Casson 2003, 20-21).

A similar survey and synthesis by the economists Robert Hebert and Albert Link in the late 1980s produced a descriptive theory that "bears a close relationship" to Casson's views and to conventional entrepreneurship theory generally. They, too, define the entrepreneur as someone who specializes in taking responsibility for and making judgmental decisions that affect the location, the form, and the use of goods, resources, or institutions. Like Casson, they hold that the entrepreneur is a person, not a team, committee, or organization. The person has a comparative advantage in decision making, and makes decisions that run counter to the conventional wisdom either because he/she has better information or a different perception of events and opportunities. Political life provides as much scope for entrepreneurship as economic life, but capitalism is a peculiar set of institutions and property relations that provide the widest berth for entrepreneurship. The definition put forward by Hebert and Link accommodates a range of entrepreneurial activities within a market system, including coordination, arbitrage, ownership, speculation, innovation, and resource allocation. (Hebert & Link 1988, 155-156).

Baumol (1993) focuses on the nature of entrepreneurial rewards ("the structure of economic payoffs"), from which he concludes, among other things, that the entrepreneur is not necessarily a heroic figure: My fundamental hypothesis is that the allocation of entrepreneurs between virtue and villainy, or to put it more dispassionately, between productive and unproductive activities, is not a matter of happenstance of little significance. The entrepreneur often makes no productive contribution at all, and in some cases plays a destructive

role." This does not happen fortuitously, but occurs when the structure of payoffs in an economy is such as to make unproductive activities more profitable than activities that are productive. Baumol defines the entrepreneur as "any member of the economy whose activities are in some manner novel, and entail the use of imagination, boldness, ingenuity, leadership, persistence, and determination in the pursuit of wealth, power, and position, though not necessarily in that order of priority. In other words, the term is meant to encompass all non-routine activities by those who direct the economic activities of larger or smaller groups or organizations". (Baumol 1993, ix, 1, 11, 18).

Mises (1996) holds that the entrepreneurs of economic theory are not living men as one meets them in the reality of life and history. They are the embodiment of distinct functions in the market operations. In embodying this function in an imaginary figure, he resorts to a methodological makeshift. The term entrepreneur as used in catallactic theory means: acting man exclusively seen from the aspect of the uncertainty inherent in every action. The entrepreneur dealing with the uncertain conditions of the unknown future—that is, speculation—is inherent in every action" and in any real and living economy, every actor is always an entrepreneur and speculator. (Mises 1996, 250–253, 327).

Mises views entrepreneurship as an "imaginary construction of functional distribution. . . . The specific entrepreneurial function consists in determining the employment of the factors of production. The entrepreneur is the man who dedicates them to special purposes. In doing so he is driven solely by the selfish interest in making profits and in acquiring wealth. Promoters, by contrast, are "those who are especially eager to profit from adjusting production to the expected changes in conditions, those who have more initiative, more venturesomeness, and a quicker eye than the crowd, the pushing and promoting pioneers of economic improvement". (Mises 1996, 254–255, 290–291).

Mises also distinguishes entrepreneurs from managers. In Mises's view, the managerial function is always subservient to the entrepreneurial function. It can relieve the entrepreneur of part of his minor duties; it can never evolve into a substitute for entrepreneurship". (Mises 1996, 306). Mises argues that the entrepreneur's success or failure depends on the correctness of his anticipation of uncertain events. If he fails in his understanding of things to come, he is doomed. The only source from which an entrepreneur's profits stem is his ability to anticipate better than other people the future demand of consumers" (Mises 1996, 290). Mises characterizes promoters, speculators, and entrepreneurs alike as being "the first to understand that there is a discrepancy between what is done and what could be done. They guess what the consumers would like to have and are intent upon providing them with these things. (Mises 1996, 336).

Knight stresses the distinction between risk, which is insurable (that is, it can be eliminated by means of contingent contracts, hedging, and diversification), and uncertainty, or "the fact of ignorance and necessity of acting upon opinion rather than knowledge", which cannot be eliminated systematically through discovery and action. Knight explains how uncertainty gives rise to the

“pure profit” that is the entrepreneur’s life blood. Pure profit is the accounting residual that remains after payment is made to all production factors, what Knight described as “a distributive share different from the returns to the productive services of land, labour, and capital”. Entrepreneurs are compensated out of this residual for having the sagacity and confidence to decide business issues in the face of uncertainty, where intuition and judgment are the only available guides. Knight dismisses the possibility that entrepreneurs are compensated for attacking uncertainty with routine innovation (what today is called “best practices”) because these ideas diffuse too rapidly for pure profit to form. (Knight 1997, 18 ).

Knight’s views are confirmed by Baumol, for example, who notes that “reality seems to offer more than a few examples consistent with the picture that associates no more than normal profits with innovative outlays, a picture clearly different from that painted by the Schumpeterian model that stressed the role of innovation.” Non-routine innovation, automatically erects barriers to entry sufficient to permit some positive profit. (Baumol 1993, 115–120).

The concept of entrepreneur has been widely addressed in what may be termed our ‘public system’. The following Table 9 presents interpretations of the concept of entrepreneur put forward by Parliament, the authorities, organizations and researchers, and demonstrates that the definition is far from unequivocal, even inconsistent in certain respects. This cannot help but be reflected in entrepreneurship education and training.

TABLE 9 Interpretations of the concept of entrepreneur

Parliament	Authorities	Organizations	Researchers
<p>An aim of vocational education is to provide the students with the skills necessary to pursue an independent profession. (Act on vocational education, section 5(1), Act 630/1998)</p> <p>For purposes of this Act, entrepreneur means a person who under the Self-Employer Persons' Pension Act (468/1969) or the Farmers' Pension Act (467/1969) is obliged to take out insurance as provided in the said Acts. (Act on adult education subsidy, section 3(2), Act 1276/2000).</p> <p>Entrepreneur means a person who engages in gainful employment without being in an employment relationship or in a civil service relationship or other relationship under public law. (Entrepreneurs' Pension Act, section 3(1), Act 1272/2006)</p>	<p>An entrepreneur is a person who is employed without being in an employment relationship. For the purposes of the Occupational Health Care Act, entrepreneur and other self-employed person means a person referred to in the Self-Employed Persons' Pensions Act or Farmers' Pensions Act. (The Social Insurance Institution of Finland KELA, 2005)</p> <p>Education, especially on-the-job learning and entrepreneurship studies, shall promote employment and the potential for becoming independent self-employed persons. (National Board of Education: Core Curriculum 2000, 9).</p> <p>The aim for developing into entrepreneurship shall be for the student to grow into an employee, self-employed person and entrepreneur with initiative, diligence, courage, inventiveness and an appreciation of his work. (National Board of Education: Core Curriculum 2000, 10).</p> <p>Had he not acted as an entrepreneur, he would have been entitled to have access to unemployment security, a form of support that takes primacy over the subsistence allowance. (Supreme Administrative Court, record 1472 of 20 June 2001).</p>	<p>An entrepreneur is hard-working, takes initiative, possesses social skills, is flexible, thinks in the long terms, is able to work together, is goal-oriented, methodical, courageous and resourceful. He possesses self-confidence, a basic understanding of the forms and meaning of business activities, communication skills and self-evaluation skills.</p> <p>The entrepreneur is capable of making a difference, creating team spirit, making choices, discerning the essential, obtaining information, adapting to new situations, engaging in productive work and seeking out beneficial networks. He has the desire to take risks and act as an entrepreneur. (Federation of Finnish Enterprises 2005).</p> <p>Entrepreneurs are the heroes of the entrepreneurship society (Confederation of Finnish Industries EK 2004).</p>	<p>An entrepreneurs is a person who organizes the enterprise and/or increases its production (McClelland 1998).</p> <p>An entrepreneur possesses initiative, a positive approach to work, a will to work, determination, a desire to succeed, responsibility, the will to take risks, creativity, inventiveness and activeness. (Koiranen &amp; Peltonen 1995, 26).</p> <p>The entrepreneur is free, unique, creative, insightful and curious of the new, courageous, responsible and capable of bearing the responsibility for himself, the consequences of his actions and his livelihood. (Kyrö 2005).</p> <p>With regard to life management, entrepreneurs are deemed to be internals. This means that those who become entrepreneurs have a stronger belief than any other group of persons that they can personally influence their success (Huuskonen 1992).</p>

## 3.2 Earlier research on entrepreneurial skills

### 3.2.1 Entrepreneurial skills type-classified according to interpretations of different researchers

**Gibb** (2005) says entrepreneurship can be defined with three concepts: behaviours, attributes and skills. These qualities make it possible for individuals or groups to accomplish change and innovation, tolerate uncertainty and even enjoy the complexity of life. Gibb's view of the skills of the entrepreneurs is premised on the assumption that entrepreneurship is not a synonym to business-like activity. It is not a synonym for core skills or for transferrable personal skills. It is greater than all three of these put together. (Gibb 2005, 46).

Gibb has drawn a synthesis of behaviour most often associated with entrepreneurship in literature (Caird 1988; Shaver & Scott 1991; Filion 1997). The person concerned is active, gets things done, is capable of strategic thinking and uses his imagination in allocating resources.

TABLE 10 Entrepreneurial behaviours (Gibb 2005, 47)

- |  |
|--|
| <ul style="list-style-type: none"> <li>– pursues and grasps opportunities</li> <li>– takes initiative to make things happen</li> <li>– solves problems creatively</li> <li>– leads independently</li> <li>– takes responsibility, adopts issues</li> <li>– sees through things</li> <li>– networks effectively and manages mutual dependence</li> <li>– combines things creatively</li> <li>– exercises judgment in taking calculated risks</li> </ul> |
|--|

Underlying these behavioural skills are a number of attributes (Table 11) which may be developed with varying success depending on the individual. They support both the individual and the team in promoting change through new ideas and innovations.

TABLE 11 Entrepreneurial attributes (Gibb 2005, 47)

- |   |
|---|
| <ul style="list-style-type: none"> <li>– is purpose-driven and ambitious</li> <li>– has self-confidence and self-esteem</li> <li>– is headstrong</li> <li>– has a high degree of internal control</li> <li>– is action-oriented</li> <li>– wishes to learn by doing</li> <li>– is hard-working</li> <li>– is determined</li> <li>– is creative</li> </ul> |
|---|

Entrepreneurial attributes can be developed, at the same time reinforcing both entrepreneurial behaviours and entrepreneurial skills as set out in Table 12:

TABLE 12 Entrepreneurial skills (Gibb 2005, 48)

- |   |
|---|
| <ul style="list-style-type: none"> <li>– is capable of creative problem-solving</li> <li>– can persuade</li> <li>– can negotiate</li> <li>– can sell</li> <li>– can demonstrate</li> <li>– is capable of holistically managing an enterprise/project/situations</li> <li>– is capable of thinking strategically</li> <li>– is capable of making decisions under uncertain circumstances</li> <li>– can network</li> </ul> |
|---|

These classifications of entrepreneur were drafted by Gibb (2005, 47–48) with aim of defining entrepreneurship education to serve as the basis for a curriculum.

**Koiranen** (2000) has type-classified entrepreneurs as extensively as Gibb, but Koiranen’s classifications are more descriptive and take into account the relevant context. According to Koiranen, the entrepreneur is a “life artist”, who realizes his calling and his personal will with diligence and creativity. His intent is linked to issue and situation and also has a cultural context, yet ultimately he himself creates his own intent. He acts according to that strategic intent and relying on it, takes responsibility for his own future. He believes in self-control, and has the need to determine his own future. (Koiranen 2000, 31).

The entrepreneur has the capacity for sight and thought. He is a visionary. The entrepreneur wishes to combine thought with action and take responsibility for both planning and execution. In his action orientation, he is prepared to work hard. The entrepreneur enjoys the chance to combine vision with action. He is a seer and a doer.

The entrepreneur is deeply committed to his priorities and he experiences his agenda with depth and personal importance. He sets goals for himself and feels responsible for those goals. Mistakes and failures happen, yet the entrepreneur perceives these as learning experiences. He has the ability to take and manage risk, and he endures and promotes risk-taking in order to achieve reforms.

The entrepreneur possesses persistence. He has the diligence for several years’ work when the goal is valuable. He is interested in results both in the short and long term. In his situation assessments, he examines his chances of success, relying on his visions of the future. Some consider the entrepreneur immoral simply on the grounds that the need to perform results in flexibility when it comes to following rules. The majority of entrepreneurs as such have more honesty and integrity than many non-entrepreneurs.

The entrepreneur enjoys hearing of the experiences, ideas and insights of others, which helps him to learn from his own failures and successes as well as those of others. This leads him to his own innovations, which most commonly



arise from a new way of combining things, locating discontinuities and utilizing price differentials in the market. (Koiranen 2000, 32).

**Remes** (2003) has a more critical view of the skills of the entrepreneur than Gibb or Koiranen, but at the same time Remes ties these into the context of entrepreneurship education. A different overall view of entrepreneurship education and entrepreneur-like pedagogy arises depending on choice of perspectives. When the focus in examination is on external entrepreneurship, entrepreneur-like pedagogy most closely resembles business-type education, internal entrepreneurship resembles co-operative entrepreneur-like pedagogy and spontaneous entrepreneurship resembles independent and creative adventures in learning environments (Remes 2003, 108).

The theories on entrepreneurship which have arisen within the framework of business-based economics created to satisfy the needs of modernization remain willing to describe entrepreneurship only as the number of innovations, growth and expansion. Entrepreneurship as a phenomenon is lost under this theoretical elaboration which supports organization. Human creativity and dialogue with the environment are characteristic of entrepreneurship, and entrepreneurship in its creative orientation is little interested in expansion and linear growth, which is the aim of business theories calling themselves theories of entrepreneurship (Remes 2003, 155).

**Ylinen** (2004) stresses attitude and holds that attitudes are clearly emphasized in the current skill sets of entrepreneurs. The attitude and will is there, yet improvement is required in abilities and knowledge. Modern society demands that the entrepreneurs shall master a vast volume of issues, regulations, statutes and other knowhow.

Among skills which entrepreneurs wish to learn, financial matters, information technology, taxation, general knowledge and professional knowledge are highlighted in terms of knowledge. With regard to abilities, the most room for improvement is in the sectors of planning, selling skills, organization and delegation. In attitudes, areas for future improvement include self-control, lifestyle, hobbies and deliberation. Ylinen expresses a greater desire for knowledge of norms and administrative expertise in the expertise of entrepreneurs than other researchers.

The development path of the entrepreneur requires him to have initiative, be capable of taking responsibility and making independent decisions. Self-confidence is vital to successful business activity. One must therefore be aware of one's strengths and especially one's weaknesses. Business activity can be built on a foundation of strengths, but weaknesses can and must be addressed. (Ylinen 2004, 140–142).

**Kyrö's** entrepreneur is more future-oriented than the one envisioned by other researchers. Kyrö feels that human action is the foundation of all forms of entrepreneurship. This draws a picture of a unique, free, risk-taking and self-driven actor who is accountable for his own life and livelihood, and who through his own actions creates wellbeing in society. Kyrö's entrepreneur challenges old ways of working, old norms and rules, and creates new ways of working. He has the ability to observe his environment, combine resources in

new ways and negotiate with his environment to gain access to the resources necessary to him. He also has the ability to solve problems in unfamiliar situations. When he fails, he seeks out new and alternative solutions. (Kyrö 2005).

### **3.2.2 Summary of interpretations**

The following Table 13 presents a summary of the skills of the entrepreneur as construed by the researchers presented above. These have been approached in a traditional manner, from the viewpoint of the entrepreneur's personal skills. Entrepreneurship is seen as a personality trait, according to which a person either is an entrepreneur or not. In terms of definition, the entrepreneur is also approached through functions. Important factors in the entrepreneur's functions are the skills necessary for starting, managing and developing a business.

TABLE 13 Interpretations of the skills of the entrepreneur

<b>INTERPRETATIONS OF THE SKILLS OF THE ENTREPRENEUR</b>				
<b>Gibb, A. (2005)</b>	<b>Koiranen, M. (2000)</b>	<b>Remes, L. (2003)</b>	<b>Ylinen, A. (2004)</b>	<b>Kyrö, P. (2005)</b>
<p><b>1. Behaviours</b> Pursues and grasps opportunities. Takes initiative to make things happen Solves problems creatively. Leads independently. Takes responsibility, adopts issues. Sees through things. Networks effectively and manages mutual dependence. Combines things creatively. Exercises judgment in taking calculated risks.</p> <p><b>2. Attributes</b> Is purpose-driven and ambitious. Has self-confidence and self-esteem. Is headstrong. Has a high degree of internal control. Is action-oriented. Wishes to learn by doing. Is hard-working. Is determined. Is creative.</p> <p><b>3. Skills</b> Is capable of creative problem-solving. Can persuade. Can negotiate. Can sell. Can demonstrate. Is capable of holistically managing an enterprise/project/situations Is capable of thinking strategically. Is capable of making decisions under uncertain circumstances. Can network.</p>	<p><b>1. "Life artist"</b> Realizes his calling and his own will, intents are factual and situational. Takes responsibility for his own future. Believes in self-control.</p> <p><b>2. Visionary = seer and doer</b> Combines thought, vision and action. Prepared for hard work, for which assumes full accountability.</p> <p><b>3. Dedicator</b> Deep and responsible relationship with personal priorities and goals. Takes failures as learning experiences.</p> <p><b>4. Risk-taker</b> Takes, manages, tolerates and promotes risk to achieve reforms.</p> <p><b>5. Diligent</b> when the aim is valuable. Result and performance oriented</p> <p><b>5. Insightful into the new</b> listening to others, learning from mistakes; generating new material from synthesis.</p>	<p><b>1. Business entrepreneur</b> As inventor, grower and expander of innovations. Organization-seeking.</p> <p><b>2. Cooperative</b> internal entrepreneur.</p> <p><b>3. Creator of the new</b> is independent, engages in dialogue with the environment. No dreams of expansion or seeking of linear growth.</p>	<p><b>1. Knowledge</b> Familiarity with regulations, legislation and the like. Finance, information technology, taxation, general and professional knowledge.</p> <p><b>2. Skills</b> Planning, sales skills, organization and delegation.</p> <p><b>3. Attitudes</b> Being capable of taking initiative, independent, responsible, solution-making and self-confident. Aware and accepting of one's strengths and weaknesses. Developing self-control and diligence, the quality of lifestyles and hobbies.</p>	<p><b>1. Individual</b> Free, holistic and unique actor.</p> <p><b>2. Seer</b> Perceives opportunities. Applies new knowledge. Is responsible for his life and the risks therein.</p> <p><b>3. Creator of new</b> Seeks and finds the new in the surrounding reality.</p>

### 3.2.3 Roodt's summary of the skills of the entrepreneur

Roodt's research (2005, 1-14) finds that today, a more comprehensive view has been adopted of the skills of the entrepreneur and that the lifecycle stage of the

firm also presents its own demands. Technical knowledge relating to the product and service is essential at the start-up stage. Besides technical skills, entrepreneurs also need perseverance, communication skills and managerial and leadership skills in order to succeed. If firms are to grow, innovative leaders need information in order to be proactive. Planning for growth calls for financial planning in order to achieve long-term goals. In Roodt's summary, the skills of the entrepreneur consist of technical skills, communication skills, managerial and leadership skills, innovative skills, information-seeking skills, financial skills and personality-related skills such as perseverance and proactivity. Temperament has further been added to personality as a distinct component.

### 3.2.3.1 Technical skills

Technical skills are used in a particular subject, art, or craft, or its techniques (Concise Oxford English Dictionary, 2004, 1478). Technical skills are unique to each venture or field of specialisation (Timmons, 1994, 222) and entail "the ability to apply specific knowledge, techniques and resources successfully in the execution of an assignment" (Marx et al., 1998, 356). Would-be entrepreneurs who have the technical skills and have perceived a business opportunity, often lack the required entrepreneurial expertise. Multiple skills such as, inter alia, marketing and financial management skills, are necessary for successful entrepreneurship, in addition to technical skills (Frazey, 1997, 164).

Apart from formal training and education, applicable working experience is a prerequisite for potential entrepreneurs. Honig (1998, 372) found that vocational training enhanced the profitability of a firm, and that years of experience in a firm were consistently positive and strongly associated with increasing profits. Not just specific skills, but generic competencies are increasingly required, because of technological development and changes in the business environment. Technical knowledge is thus required for self-employment, but more than that is needed in order to grow a firm (Roodt 2005, 2).

### 3.2.3.2 Communication skills

Roodt's research (2005, 3-4) finds that there are a variety of definitions of the term "communication". According to Erasmus-Kritzing, Bowler, and Goliath (2001, 3) "Communication can be defined as a two-way process whereby information (message) is sent from one person (sender) through a channel to another (receiver) who in turn reacts by providing feedback". According to Shuman (1999), the key to entrepreneurial and business success is the ability to satisfy the needs and wants of your customers better than anyone else does. If you are lucky enough to ever achieve success, it is seldom final. The business process continues, because the customers' needs constantly change. According to this definition, then, communication with the customer, which implies feedback, is crucial to satisfying the needs of the market. Communication is also important in the management process (Aula 1998, 10).

Business is an ongoing development process (Shuman, 1999, 22). Entrepreneurs start a firm, build it and run it, From this business process viewpoint, the individual who creates the firm (the entrepreneur) takes on other roles (innovator, small-firm owner, vice-president, and so on) at each stage of the firm's life cycle. Entrepreneurship is not a fixed state of existence, but an entrepreneur is an individual who creates a firm (Gartner, 1988, 26). Although different roles are required at various stages of development in a firm of anyone that is self-employed, at each stage communication is crucial.

Prior to the start-up phase, networking and communication with various potential customers, suppliers, providers of services and resources are required, as these networks link entrepreneurs to resources and provide information-exchange opportunities. Once the firm has been initiated and begins to grow, more interaction with employees is required to keep the business process on track. If established firms seek to become more entrepreneurial, traditional hierarchy and formalised processes should be replaced by flatter hierarchies and tolerance for ambiguity (Honig, 1998, 418). Modern firms often encounter pressure for change because of environmental factors. For the achievement of results in rapid-growth firms, close collaboration of a manager with other people is required for resolving differences, managing others, and growing managerial talent (Timmons, 1994, 211-212). Thus, a diversity of viewpoints needs to be maintained if change and growth are planned.

Along with the knowledge society came technological development and globalisation. Computer and telecommunications technologies made many new structures and communication systems possible. In order to deal with change and turbulent environments, firms must incorporate communication mechanisms to ensure proper co-ordination. "Relational communication" refers to the alignment of the firm's structure with motivational strategies and leadership so that it nurtures an informal communication system that promotes the firm (Conrad and Poole, 2002).

In traditional firms, information flows through various levels of managers (Guffey, 2000), while in a relational strategy there is more flexibility, responsiveness and openness to innovation and change. In a cultural strategy, on the other hand, leaders recognise the importance of relational concepts such as decentralisation and participation, but also stress connectedness (such as values and symbols that hold a firm together) to a great extent (Conrad and Poole, 2002). Traditional, relational, and cultural strategies can, however, only go a certain distance in adapting to change in the environment. A network strategy, on the other hand, is appropriate for firms that have to cope with high levels of uncertainty. The network is coordinated through communication and negotiation rather than through authority. Many firms, however, are a pastiche of more than one of these strategies (Conrad and Poole, 2002).

Communication in a firm is essential, but communication is also very important among firms. In developing countries particularly, networking and communication are crucial for forming linkages among small, medium and large firms and developing an integrated economic system in this way. When linked with other firms in the domestic economy, large firms can provide a

market for the intermediate production of goods from smaller industrial firms (Spring and McDade, 1998, 15).

### 3.2.3.3 Managerial skills

As to management and leadership Roodt's research (2005, 4-5) finds that management is the rational process that deals with the use of scarce resources and tasks such as planning, organising, leading, co-ordinating and controlling for attaining certain objectives (Marx, Van Rooyen, Bosch and Reynders, 1998, 349).

Although management and leadership are related, the two concepts are not identical. Often, leaders with entrepreneurial abilities can start a successful firm, but when the firm grows, they fail as managers. Usually, a manager is highly skilled in management through predetermined structures, but possesses relatively limited creativity (Marx et al. 1998, 708). If a firm needs to grow after the start-up phase, the pursuit of certainty through management structures and systems, with the consequent reduction of ideas that challenge the status quo, may hamper growth (Honig 1998, 416). The typical entrepreneur, however, possesses relatively high creativity, as well as managerial skills.

Newtonian science saw firms as being operated according to a deterministic, predictable mode, while modern approaches to management have brought less control and more organic, holistic and ecological organisation. For venturing and further growth, enhanced information and organisational communication systems are crucial. In growth-oriented firms, it is the responsibility of management as well to help people engage in dialogue (McDaniel 1997, 21-31). Differences of opinion should be encouraged. Entrepreneurship arises from the management of resources under the uncertainty produced by the presence of many and diverse ideas. Management of entrepreneurial ventures should seek to preserve this dynamism as their firms grow and develop, by seeking to promote greater uncertainty, but in manageable ways (Honig 1998, 417-418).

Unfortunately, the founders of firms often lack sufficient managerial skills to help their firms make critical life-cycle stage transitions and abandon their own narrow technical views. A firm's performance suffers as a result, and in many cases new leaders are needed to help effect successful stage transitions (Meyer and Dean, cited in Honig 1998, 415). Although the management skills of the entrepreneur and manager overlap, the manager is more driven by conservation of resources, and the entrepreneur is more opportunity-driven (Timmons 1994, 25).

## Leadership

Leadership is a universal human phenomenon and leadership studies are an ancient art. Yet, although leadership is one of the most observed, it is also one of the least understood phenomena, as the patterns of behaviour regarded as acceptable in leaders differ from one culture to another and from time to time (Burns 1978). Marx et al define leadership as follows: "Leadership is the ability a person has to influence another person's behaviour so that he or she will vol-

untarily contribute to the attainment of preselected objectives". (Marx et al. 1998, 348).

True leaders view employees as assets that require investment and not control. A leader consults employees in realising a shared vision for the firm. Leaders with a vision should motivate others in the firm to assume ownership of the vision as well. Through communication, leaders must work at promoting identification with the vision. Leaders continually need to reiterate, reinforce, and redefine the vision and goals to enlist support and commitment from followers. In order to get support from followers, leaders need to build good interpersonal relationships (Puth 1994, 150,156).

Charismatic leaders have the ability to create a vision of where the firm is going, create strategies for achieving goals, and persuade others to accept that vision (Conrad and Poole 2002, 100). Charismatic quality is required of entrepreneurs. Visionary leadership displays personal integrity and a willingness to take reasonable risks and give of oneself for the good of the firm. Visionary leadership demonstrates personal warmth and charm, and shows concern for employees and their lives outside the firm (Gardner and Cleavenger 1998, 3-41). A Walker International survey (Sunday Times Business Times 2002), for instance, found that the six factors that influenced employee commitment to the workplace most are: 1) satisfaction with day-to-day activities, 2) care and concern by employers for employees, 3) work and job resources, 4) reputation of the firm, 5) fairness at work, and 6) trust by employers in employees.

#### **3.2.3.4 Innovative skills**

Innovative skills are also included into Roodt's research (2005, 5-6). According to her innovation brings change (Jennings 1994, 185) and creativity brings into existence something that has never existed before or disturbs the status quo (Jennings 1994, 287). Joseph Schumpeter (cited in Jennings 1994) describes entrepreneurship as the process of creating new combinations of factors to produce economic growth. Schumpeter also remarks that innovation by entrepreneurs may take the form of reconfigurations, and need not be the product of brand-new ideas. The creation of a market may not represent a new idea; it may simply be a different approach for the particular industry that provides a competitive edge (Spring & McDade 1998). A common channel through which technological innovation makes its way into firms is through relations with other firms. Innovative firms innovate by the form of the acquisition of tools and equipment or the purchasing of raw materials from other firms (Bellandi 1989, 80).

Only a limited number of firms grow into larger firms. Some do not have the desire or ability to pursue growth opportunities or manage growth. Growth brings about change, and firms that have an entrepreneurial spirit should have the willingness to change and grow (Sexton and Bowman-Upton 1991, 184). Sexton and Bowman-Upton (1991) point out that many of the characteristics normally attributed to entrepreneurs were also found in all successful managers, but that entrepreneurs possess more intense levels of growth-oriented traits

than do managers in general. An entrepreneur plans to grow and increase the size of the labour force/staff complement, while most self-employers intend to earn their initiator a mere living (Sexton and Bowman-Upton, 1991). Organisational growth is not automatic. Growth must be planned for, and it is a decision made by some self-employed people to pursue, and by others to avoid (Sexton and Bowman-Upton, 1991). Firms directed by entrepreneurs are committed to growth as a fundamental strategic aim (McGowan et al. 2001).

It has been found that lifecycle stages of a firm have important effects on innovation in a firm. Factors that facilitate innovation at the inception of a firm may actually hinder it in later stages (Sexton and Bowman-Upton 1991, 250). Centralised leadership may contribute to innovativeness in a firm's early stages, but an adjustment in management style may be needed as a firm matures (Frese, van Gelderen, and Ombach 1999, 2-30).

The challenges of modern times call for intelligent, living organizations that have shifted from routine tasks to innovation and caring, from individual work to teamwork, from function-based working to projects, from narrowness to multi-skills, from top-down coordination to peer-based coordination, and from supervisor authority to the authority of customers. (Pinchot & Pinchot 1996, 51).

### **3.2.3.5 Information-seeking skills**

All the listed skills researched by Roodt also consisted of information-seeking skills (Roodt 2005, 6). Information is every idea, theory, conjecture, experience, or philosophy that can be discerned with the senses and intellect, and can be found in books, magazines, TV, computers, movies, and people (Shane, 1994). The value of information can be taken advantage of when it is collected, processed, and linked to provide answers to problems or needs. Collection, processing and connecting information are part of a firm's business life. Successful business people use different methods to collect, process and connect information, but they always do it. Information is required at every step in the business process: for finding a market opportunity, for the development of a business concept to satisfy customers' needs, and for introducing change when change is required. An entrepreneur must be up-to-date on the latest market trends and implement these to enable the firm to consistently offer the best products and services. Knowledge often separates a firm from its competitors (Pierce, 2003).

Until the early 1980s, one of the biggest advantages the CEOs of large firms had over CEOs of smaller firms was their ability to use people and technology to help process information. Over the past 20 years, significant advances have been made to both microcomputer hardware and software, and these advances have helped smaller firms compete more effectively with bigger firms. The Internet makes it easier for people to work with one another and share information and knowledge without concern for location or time (Shuman 1999). The dominant reason for the use of the Internet is information gathering and provision (McGowan et al. 2001).



### 3.2.3.6 Financial skills

Financial management skills entail the determination of the capital requirements of a firm and ensuring that capital is obtained and effectively employed as Roodt's research (2005, 7) states and continues that the financial function therefore refers to the flow of capital to and from the firm (Marx et al. 1998, 583).

Financial planning is crucial for own-business planning, supports strategic planning, and is required for securing loans, growth planning, asset management, profit planning, and cash-flow planning. Accurate financial statements and management reflect well on a firm. According to Hiam and Olander (1996, 260), owning a firm requires some basic understanding of accounting and bookkeeping functions. Financial health is an indicator of past performance and an enabling resource for future performance. A strong financial base provides greater freedom in strategic choices and assists with the formulation of an optimal business plan for the longer term. A firm operating under financial constraints is more interested in short-term survival than business growth in the long term (Human and Horwitz, 1991, 79).

### 3.2.3.7 Personal skills: temperament, perseverance and proactivity

#### Temperament

The persona of the entrepreneur has always been a subject of abiding interest and fierce debate. Typologies of temperament and character represented the first attempts to "scientifically" examine the persona of an individual. This, however, did not equal a study of personality from the current point of view, as temperament and character were perceived as phenomena relating to personality but distinct from it. (Puhakka 2002, 202). Temperament is a way of reacting and behaving that develops in early childhood and is based on biological and genetic heredity, while character is a reasonably permanent, externally visible and "characteristic" way of behaving. (Eskola 1985, 12–13; Dunderfelt, Laakso, Peltola, Vidjeskog & Niemi 1993, 15–21).

Puhakka has adopted a critical approach to the examination of the entrepreneur through personality traits, as these have been unable to distinguish entrepreneurs from managers or capitalists (Puhakka 2002, 199). Puhakka proposes that examination of the entrepreneurial persona adopts as its point of departure a cognitive personality conception, making the personality of the entrepreneur the sum total of the individual's core beings and the world view, self-idea and coping mechanisms surrounding it. (Puhakka 2002, 206).

#### Perseverance

Besides temperament also perseverance and proactivity can be listed into personal skills according to Roodt's research (2005, 3–6). Successful business people possess certain characteristics and share common attitudes, including com-

mitment, perseverance, a tolerance for risk, and a high level of integrity and reliability (Timmons 1994, 24). Say (1971, 330) argues that success in entrepreneurship requires qualities such as "judgment, perseverance and a knowledge of the world as well as of business". To persevere is to "continue in a course of action in spite of difficulty or with little or no indication of success" (Concise Oxford English Dictionary 2004, 1069). To be successful, entrepreneurs must maintain the strength of mind needed to persevere through the difficult times (Pierce, 2003). Lottery and sweepstakes winners become instant millionaires; entrepreneurs do not. For the vast majority of entrepreneurs it takes 10 to 20 years or more to become successful (Timmons 1994, 653). According to Shuman (1999), starting and managing a successful firm require a huge emotional commitment, and perseverance is important for successful self-employment. Surviving the inevitable disappointments and near disasters one encounters on the rough road to entrepreneurial success takes a passion for the chosen business. If there is no excitement about the business, it should not be pursued (Edwards and Edwards, 1999; Tiffany 2000). Entrepreneurs must have considerable confidence in their talent and ideas to persevere, but must also recognise mistakes, and change strategies as events unfold. Although perseverance and tenacity are valuable entrepreneurial traits, they must be complemented with flexibility and a willingness to learn. Successful ventures do not always proceed in the direction in which they initially set out. A significant proportion of successful ventures develop entirely new markets, products, and sources of competitive advantage (Bhide, 1994). Drucker (1985, 189), observed: "When a new venture does succeed, more often than not it is in a market other than the one it was originally intended to serve, with products or services not quite those with which it had set out, bought in large part by customers....". Success is never final and, at any moment, a product or service may no longer satisfy customers, and one must be both alert to that and ready to change (Shuman 1999, 18).

Schumpeter (cited in Timmons 1994, 11) describes a certain level of failure as part of creative self-destruction. Failure is part of innovation and economic renewal. For the entrepreneur, failures and successes are merely parts of a learning cycle (Shuman 1999, xviii). The main difference between well-known successful business people and others who did not persevere is that "the successful ones have picked themselves up one more time than they have fallen" (Mathews 1993, 103).

### **Proactivity**

Proactivity in a business sense is the "willingness to be first in the introduction of products or services rather than respond to the actions of competitors" (Sexton and Bowman-Upton 1991, 183). The bureaucratic firm takes no risks, nor is it interested in proactivity or innovation. Growing firms face frequent changes, and attempt to change in a manner that is creative and innovative. Whether an entrepreneur can seize an opportunity in time depends on movements in technology and competitors' thrusts, among other factors. An opportunity is a constantly moving target for which there exists a "window of opportunity"

(Timmons 1994, 21). As policies and procedures to support the infrastructure of a firm become more structured, it loses its ability to respond rapidly to changes in the market. In many cases the rapid response rate translated into competitive edge. To keep up an entrepreneurial spirit in a firm that grows, an entrepreneur often needs to deviate from established practices and try something new. Thus, proactivity is very often required for growth. (Roodt 2005, 6).

Entering new areas stands for the courage for experimentation, which fits in ideally with the nature of entrepreneurship. Lumpkin & Dess (1996) have also defined entrepreneur-like activity as proactivity and they consider it to be an important new characteristic of entrepreneurship. For them, it stands for a forward-looking perspective and it involves innovative, i.e. creative activity. (Lumpkin & Dess 1996, 146).

### **3.2.4 Summary of earlier research into the skills of the entrepreneur**

The skills of the entrepreneur have traditionally been approached from the viewpoint of the entrepreneur's personal characteristics. The characteristics and traits most commonly associated with the entrepreneur include initiative, creativity, good motivation to perform, enthusiasm, competitiveness, inventiveness, sufficient self-confidence and the willingness to accept risk. Entrepreneurship is perceived as a personality trait that either makes a person an entrepreneur or not. In terms of definition, the entrepreneur is also approached through functions. The entrepreneur is considered an innovator, risk-bearer, founder, manager, organizer and owner. Important factors in the entrepreneur's functions are the skills necessary for starting, managing and developing a business.

With regard to the various interpretations of the skills of the entrepreneur, it can be said that the researcher representing the purest Bloomian view is Ylinen, according to whom affective and psychomotor skills are required alongside cognitive skills. The persona of the entrepreneur and its traits has a strong presence in the interpretations put forward by the other researchers cited here.

Ultimately, among the different researchers' interpretations as to the type-classification of the skills of the entrepreneur, I chose Roodt's views as my basis for reflecting on the results of this research. Roodt's views on the skills of the entrepreneur, reinforced with certain personality traits, provided an encapsulated match to my own views as to the core skill sets required of the entrepreneur. In comparison to those of other researchers, Roodt's work has the merit of being pragmatic and concrete, moving beyond e.g. a traditional presentation of personality traits. The core skills are presented in a very concrete manner in their respective contexts. Personally, I also see an analogy with subject categories, such as marketing or financial administration, yet in reality, the approach is function-based: viewing e.g. marketing as proactivity, which might take further development of this particular field to a whole new level. Steps in this direction have already been taken in some recent marketing programmes, such as technology marketing and entrepreneurial marketing.

Critical views may be voiced of the concept of management/leadership alone already comprising the skills of innovation, information-seeking, com-

munication, provision of motivation and resource allocation put forward by Roodt. Nonetheless, I stand by Roodt's views, as I believe Roodt has a comprehensive understanding of the business skills of the entrepreneur and the core skills argued by Roodt are expressly function-specific.

### 3.3 Entrepreneurial expertise as tacit knowledge

Tacit knowledge plays an important role in the examination of entrepreneurial skill sets. Unconsciously, we all utilize a tried and tested mental model developed through trial and error over the course of our life. When asked about it, we are usually unable to put it into words, yet for some reason it works within us intuitively in the form of tacit knowledge and tacit feeling. Every person active in a live work organization, or real life, acquires tacit knowledge without any explanations from the conscious mind. Knowledge and feeling of this kind, alien to 'book smarts' is acquired through experience. It is a situational creative process which often acts with great expediency and adapts naturally to changing situations. (Ruohotie 1998, 20).

Kaplinsky (1982) goes considerably further in his view, stating that the conscious mind is divided in two, like an iceberg, with the majority of human knowledge lying below the surface. The submerged part of human wisdom is subconscious and acquired through a long process of evolution while the conceptual part visible above the surface is something we are aware of and has been consciously acquired. The true essence of things cannot be reached with conceptual knowledge. (Kaplinsky 1982, 155).

Polanyi worked with the idea of tacit knowledge since the 1940s. His motto was "We know more than we can tell" (Polanyi 1966, 4). He coined the term 'tacit knowledge' to stand for our 'unarticulated' knowledge that could not be expressed in any natural or formal language. Besides comprehension, Barney (1991) added imitation to the concept. Polanyi posits our knowledge and skills to consist of three levels: 1) that which we are able to articulate, i.e. express in a language (speech, mathematics, etc.), 2) the as yet unarticulated part which is not yet in focus but can be brought into focus and then described, i.e. articulated, and 3) the part which for whatever reason cannot be articulated, i.e. described. The conversion of the unarticulated into the articulated takes place through focus on a new area of knowledge or skills. (Polanyi 1966; Toivonen & Asikainen 2000).

Nonaka argues that tacit knowledge can be broken down into two dimensions: 1) technical 'knowhow' comprising e.g. skills of the hand, experience-based knowhow and technical skills, and 2) the cognitive dimension comprising beliefs, ideals, values, mental models and schemes ingrained deep within us and often self-evident to such a degree that they are difficult to consciously perceive. This cognitive dimension constitutes our way of perceiving the world. (Suurla 2001, 36).

Ruohotie (1998) has the same breakdown in an adaptation of Bird (1994) but his definition of technical skills is not equally clear-cut. He argues that hid-

den knowledge has two dimensions: cognitive and technical. The cognitive or intellectual dimension helps us observe and define the world, and it comprises traditions, familiar and commonly accepted means of observation (paradigms), beliefs, assumptions and internal models (images). The cognitive dimension of hidden knowledge can be made observable (explicit) through the observation of disparity and differences. The technical dimension comprises situational skills and knowledge and may be more readily expressible than the cognitive dimension. (Ruohotie 1998, 20).

Interpersonal and social skills belong among hidden, tacit or silent professional skills as a strength. Professional skills develop through personal experience that is internalized but difficult to put into words. Professional skills are also strengthened by experience, which leads to silent professional awareness. Experience is of assistance in addressing and managing problems. Earlier experiences, feelings and learning affect the manner in which a person interprets himself and others, and these also 'guide' the person's future actions. (Arola 2001, 16–19; Nurminen 2000, 30; Shaw 1999, 1).

The conscious part of the human data processing system can only work on a fraction of the data that can be processed by the unconscious part (Sveiby 1997, quoted in Suurla 2001, 37). Tacit knowledge can in most cases be understood, learned and consciously processed in practical interaction or dialogue. It is embedded in the social reality. In part, the desire to learn tacit knowledge equals submission to authority, i.e. the master, yet rules of which even the master is not aware can be learned by following him. The tools for taking possession of tacit knowledge largely come from observational learning: imitation, identification and learning by doing: (Raivola & Vuorensyrjä 1998, quoted in Suurla 2001, 37; Barney 1991).

There is a risk of tacit knowledge remaining in the dark. The manner in which to shine the light on self-evident knowledge may be difficult to determine. The expertise of ageing employees is difficult to determine, and there may be a negative bias towards the employees themselves. (Säppi 2002, 24; Jääskeläinen 1998, 16–7; Koivunen 1998, 224; Saarinen 2000, 4; Yliruka 2000, 33–34). Utilizing tacit knowledge calls for the opportunity and need for it. A small business entrepreneur will not relate tacit knowledge without a justified reason, such as the orientation of a successor. The world of business has also become aware of the issue, recognizing that the competitiveness and continuity of business depend on the flow and retention of knowledge within the enterprise.

Alvarez and Busenitz (2001) have studied resource-based theory and entrepreneurship, linking tacit knowledge to the key success factors of the entrepreneur. Before knowledge is coordinated, it is often dispersed, fragmented and occasionally inconsistent. A key question with regard to entrepreneurship is ensuring the most efficient allocation of resources to guarantee profitability. The knowledge possessed by the entrepreneur thus constitutes abstract knowledge as to where and how these resources can be obtained. With the market incapable of organizing the distribution of knowledge, the entrepreneur understands how to act and invests in this opportunity, resulting in the establishment of a new enterprise. It is thus not the market utilizing tacit knowledge but the enter-

prise profitably utilizing knowledge. (Alvarez & Busenitz 2001, 762; Barney, Wright & Ketchen 2001, 628). The primary role of the enterprise is to integrate knowledge of a certain kind. (Alvarez & Busenitz 2001, 763; Demsetz 1991; Conner & Prahalad 1996).

According to Grant and Baden-Fuller (1995), the difference between tacit and visible knowledge in business is underscored in that the market is inefficient in integrating knowledge because explicit knowledge can easily be imitated but tacit knowledge cannot be articulated (cf. Polanyi 1966). Sharing explicit knowledge can be transformed into earning while the transfer of tacit knowledge cannot be accomplished by means of marketing. Kirzner (1979) further differentiates between entrepreneurial knowledge and expert knowledge, opining that the entrepreneur identifies and exploits expert knowledge whose value is not wholly appreciated by the expert. Entrepreneurship renders possible the integration and exploitation of explicit and tacit knowledge (Alvarez & Busenitz 2001, 763).

The research of Alvarez and Busenitz lends support to the importance of tacit knowledge as a vital component in the skill sets of the small business entrepreneur. Since approximately 80,000 family business successors will be needed in Finland to take over for those retiring (KTM 2005, 13), the promotion of entrepreneurship and the development of entrepreneurial education could capitalize on the expertise of existing entrepreneurs.

### **3.4 Expertise requirements in the transition of business and industry**

#### **3.4.1 Global and Finnish megatrends**

Finland is internationally recognized as a highly competitive nation and Finnish education ranks high in e.g. the international PISA study. Himanen (2004) challenges us to build a caring, encouraging and creative Finland. He has recorded the ten major development trends of our information society: increasing international tax competition, the new global division of labour, population ageing, increasing pressures on the welfare society, the second phase of the information society, the rise of cultural industries, the rise of bio-industries, regional concentration, a deepening global divide and the spread of a "culture of emergency".

A few years ago, Koironen (2000, 87) proposed that our society adapts to social trends that dictate the direction of development in Finland as well. The identities of achiever and bon vivant are simultaneously highlighted in people, with the pursuit of quality of life pushing alongside materialistic pursuits. The need for individuality and freedom grows stronger. The recession on the one hand taught us 'to look out for number one' and on the other, to appreciate and seek a sense of community and the common good.

A similar list of Finnish megatrends has been outlined by Osmo Kuusi, the megatrends being 1) technological progress, especially in ICT, 2) economic growth based on the transfer of knowledge and goods, 3) networking in its

wider sense, 4) ecologically sustainable development, 5) new forms of work, 6) population ageing and young people in developing nations as an untapped resource, 7) social exclusion and a rise in welfare benefits, and 8) a new role for the public sector as a range of processes (Kamppinen, Kuusi & Söderlund 2002, 151–153).

Work is transforming into the provision of individualized service, rendering mechanical performance insufficient. At the same time as business is conducted globally and virtually, work is performed to an increasing degree on an individualized basis according to each customer's wishes. This means that employees must think for themselves. Knowledge is created by doing; it is not available from a central warehouse for mechanical distribution. (Suurla 2001, 117). Changes of this nature pose new and different challenges to the entrepreneur who wishes to claim his place in the increasingly global Finnish market.

### **3.4.2 Globalizing business in Finland**

The globalizing business of the future in Finland calls for networked expertise, knowledge capital management, customer orientation, entrepreneurship dynamics and service-intensiveness. (Tsupari 2005). An anticipatory report by the Confederation of Finnish Industries EK (EK 2004) predicts a major shift in the international division of labour as a result of globalization. Finland will continue to hone its focus on core expertise. The manufacture of state-of-the-art niche products requiring multidisciplinary expertise, such as sensors, materials, telecommunications, data processing and logistics as well as process knowhow, will remain in Finland. Enterprises will focus on very small niches, and expertise will be decentralized to partner networks built around core expertise. (EK 2004, 46–47). The competitiveness of enterprises from the customer point of view is based on the collaboration and expertise of several individual enterprises active in the same value chain. (Niemelä 2002, 6; Hyrsky & Lipponen 2004, 78).

Entrepreneurs must cater for factors relating to globalization and the synergistic networking of enterprises. Simulations have been introduced in the public sector as well. The success of enterprises hinges on the commitment, expertise and enthusiasm of the relevant actors (Hannus 2005, 78–81). Networks are growing increasingly complex and more difficult to manage as suppliers from all over the world become involved. Relationships between individual enterprises as well are growing more diverse. The boundaries of the actors' roles are becoming blurred: enterprises can be each others' competitors, customers and suppliers all at the same time. Means are constantly being sought for experts in various sectors to combine their skills in new ways and thus to give rise to wholly new products and services. (EK 2004, 47).

The global challenges of the changing world call for new directions in entrepreneurship education and training. A strong vision provides a foundation for making these choices.

## 3.5 Vision of entrepreneurship education

### 3.5.1 Entrepreneurship education as a concept

Entrepreneurship education can be defined as instruction and research in the attitudes, skills and expertise of entrepreneurship. Entrepreneurship education can be developed at all educational levels, its forms varying according to the learners' skills, age and motivation. Besides training for future entrepreneurs, entrepreneurship education also encourages entrepreneurial qualities such as initiative and creativity (Kansikas 2006, 417). The theoretical concepts of learning developed within education are not sufficient for understanding learning; multidisciplinary research is required.

Ruohotie and Koironen (2000, 30–33) decided to examine entrepreneurship education from the viewpoint of personality and intelligence in the conative and affective areas. They believed the core processes of entrepreneurship education had to do with conative construction, i.e. motivation and will, and they introduced the taxonomy of Snow, Corno and Jackson (1996) into the debate on entrepreneurship education. This taxonomy challenges the earlier taxonomy of Bloom (1956) which highlighted knowledge, skills and attitudes, the aim being to analyze the contents of vocational expertise from the premise of curriculum planning objectives. The effect of personality also comes to light when surveying attitudes. Psychological personality study requires large samples and a strong research orientation, however, making an examination of this kind too time-consuming and inefficient from the standpoint of curriculum planning and human resources administration.

Stanford University researchers Richard E. Snow, Lyn Corno and Douglas Jackson III present a summary of research into personality and intelligence in their extensive article (1996, 243–310), examining the processes of the human mind from three points of view: cognitive, conative and affective. Persons accomplish learning and various job assignments based on the particular nature of their minds. Performance is not solely based on the cognitive skills process; the affective and conative performance processes are of equal importance.

Historically, three modes of mental function are distinguished: cognition, conation and affection, interpreted as follows:

- cognition involves receiving, reasoning, perceiving
- affection is associated with feelings, emotions, mood, temperament
- conation has to do with motivation and conscious striving towards an objective



TABLE 14 Taxonomy of individual difference constructs (Snow, Corno &amp; Jackson III 1996, 247)

PERSONALITY		INTELLIGENCE			
Affection		Conation		Cognition	
Temperament	Emotion	Motivation	Volition knowledge	Procedural	Declarative knowledge
Traits of temperament	Characteristic moods	Achievement orientations	Action controls	General and special mental ability factors	
General and special personality factors		Orientation toward self and others		Skills	Domain knowledge
Values		Career orientations	Personal styles	Strategies and tactics	
	Attitudes	Interests			Beliefs

According to Table 14, personality consists of conative and affective factors while cognitive and conative factors have importance in an examination of intelligence. (Allahwerdi, Hietaharju, Kolstela & Laikio 2006, 5–6; Koironen & Ruohotie 2001, 103–104). Cognitive-conative combinations which help the individual build competence systematically and evaluate and monitor personal development can also be discerned. (Ruohotie & Honka 2003, 93; orig. Snow, Corno & Jackson 1996). An examination of entrepreneurship studies in vocational education, for example, allows the finding that in the related demonstrations, the work processes evaluated are primarily cognitive. The affective area of personality usually goes without attention in entrepreneurship training demonstrations, yet personality, its affective and conative area, has a constant effect on performance. (Allahwerdi, Hietaharju, Kolstela & Laikio 2006, 6).

Puhakka (2002, 199) has adopted a critical approach to the examination of the entrepreneur through personality traits (see 3.2.3.7). Traits have been unable to differentiate entrepreneurs from e.g. managers. He therefore proposes that the cognitive view of personality be adopted as the premise for the examination, making the personality of the entrepreneur the totality of the individual's core being and the surrounding world view, self-perception and coping mechanisms. (Puhakka 2002, 206).

Kyrö and Ripatti, like Koironen and Ruohotie, emphasize multidisciplinary study. They say that the concept of entrepreneurship education is a challenging one from two perspectives. On the one hand, it has to do with the definition of entrepreneurship, on the other the various interpretations of the concept of education. It is important to understand the culture and the premises from which the definition of each arises.

From the viewpoint of the terminology of education, the concepts of didactics and pedagogy are typically confused. The Anglo-American concept of pedagogy more or less covers the Continental concepts of didactics and peda-

gogy. The concept of didactics used in e.g. British literature is likely to refer to a certain formal teaching method. A tangible proposal for inclusion in Finnish terminology, having regard to the international terminological differences, could be the main concept of entrepreneurship education, with the sub-concepts of entrepreneurial learning and education beneath it. The latter could further be specified with the concepts of entrepreneurial and enterprising. (Kyrö & Ripatti 2006, 16–17).

Though the concept of entrepreneurship education lacks definition, its commonly accepted qualities can be deemed to relate to perceiving opportunities, innovativeness, accomplishing new activity and bearing risk. (Kyrö & Ripatti 2006, 17; Gibb 2005; Landstrom 1998; Schumpeter 1934). These qualities can be addressed relative to different forms of entrepreneurship: 1) an individual's entrepreneurial way of working, 2) external entrepreneurship, i.e. owning and managing a small business, 3) organizational entrepreneurship, i.e. an organization's collective way of working, and 4) internal entrepreneurship, which has to do with the dynamic of the individual's and the organization's entrepreneurial way of working. An organization could be widely understood to refer also to local, regional, national and even epochal culture. All forms of entrepreneurship interact with each other and shape each other (Kyrö & Ripatti 2006, 17–18).

According to Remes (2003, 164) the following definitions could be used for forms of entrepreneurship as counterparts to entrepreneurship education: the expression of spontaneous entrepreneurship in pedagogic activities should be compared to an individual's enterprising way of working, the expression of external entrepreneurship to the teaching of entrepreneurship knowledge and the enterprising use of materials (to create new social, intellectual or material products), and internal entrepreneurship to the enterprising way of working of a community (school plus parents, class or school plus partners). Similar thinking has been put forward by Luukkainen and Wuorinen (2002, 14–15). Entrepreneurship education is to develop and promote internal and external entrepreneurship and entrepreneurial behaviour in both individuals and organizations.

In their differing view, Jussila, Hytönen and Salminen (2005) stress that the aim of entrepreneurship education is to support the development of knowledge, skills and attitudes needed during studies and later in the world of work regardless of whether one is self-employed or in the employ of another. Entrepreneurship education, according to the three, seeks to increase goal orientation, personal enterprise, creativity, teamwork skills, performance motivation and perseverance. Entrepreneurship pedagogy is expressed in the teaching arrangements and teaching methods employed, as i.a. different learning environments. According to Remes (2003, 163), the most important aspect with regard to pedagogy in entrepreneurship education would seem to be to understand learning specifically as an adopted way of working. The manner in which the didactic arrangements prevailing from time to time start to generate entrepreneurship as a reality experienced by the actor and his environment depends specifically on whether an enterprising way of working is activated in the pedagogic event.

### 3.5.2 Significance of and new challenges to vocational and entrepreneurship education

The supply of entrepreneurship education has grown wildly over the past two or three decades. It has become an established element both in education geared directly to would-be and actual entrepreneurs and in university curricula in the Western industrialized nations (Menzies 2005, 288; Menzies & Gasse 1999; Vesper & Gartner 1999). This is a result of the sharp rise in the number and employment impacts of small businesses (Federation of Finnish Enterprises 2007). Underlying the restructuring of the enterprise base is a larger era of increasingly complex operational models and uncertainty, however, which also impacts on existing structures and organizations. Gibb (2005, 51; 1999, 1–22) has described this as global pressures causing a repositioning of the State, organizations and individuals relative to themselves, other actors and the surrounding reality.

Learning for the entrepreneur is above all a practical exercise. A comprehensive relationship with the environment underscores constant change. Rapidly changing business environments can contain much inconsistent data, observations and experiences which the entrepreneur works into ideas and thus constantly creates new opportunities for entrepreneurship. This activity contributes to the construction of the entrepreneur's relationship with the world. Meanings, their birth and development are by nature collective and individual. Information and knowledge about reality are social phenomena experienced and perceived in different situations of interaction. (Kyrö 2005, 88–89).

The report of the European Commission describing the status of entrepreneurship education (2003) revealed that Finland was the only country that had committed to entrepreneurship education throughout general and vocational education. The aim is to develop flexible vocational competencies. In the transition of the postmodern, vocational education has been subject to pressures to expand and emphasize the small business environment alongside large corporations and public administration organizations. All forms of entrepreneurship are built on a foundation of human activity. (Kyrö 2004b, 8–10).

The idea of promoting entrepreneurship through means relating to training and education is hardly a new one. Back in 1987, Finnish legislation concerning vocational education (487/1987, section 3(3)) contained the following overall educational objective: "Vocational education shall familiarize students with entrepreneurship, business and local conditions." An analysis of entrepreneurship curricula indicates that the said Act was not reflected in the national core curriculum, however.

Since the major challenge in education has been to improve basic entrepreneurship skills and increase enthusiasm for personal activity and entrepreneurship, entrepreneurship education has been among the target levels of Finnish educational institutions since the mid-1990s. Permeating all levels of education, it naturally takes diverse shapes and forms. The phenomena of entrepreneurship consist of so many different values, levels, dimensions, types, func-

tions and interpretations that this diversity is neither harmful nor cause for amazement. (Koironen & Peltonen 1995, 87).

Permanent Secretary Vilho Hirvi of the Ministry of Education expanded the domain of entrepreneurship education as follows in the journal *Opettajankouluttaja* in 1995: "The vitality of the economy, industry and culture of all countries depends in part on the potential of the school system for creating positive attitudes and providing skill sets for entrepreneurship. The school system must generate entrepreneurship as a continuum extending from primary school through tertiary education." (Hirvi 1995, 4–5). Thus entrepreneurship education has come to cover our entire system of public schools and education.

In the international arena, the importance of entrepreneurship to the economy is constantly growing and gaining weight. Job provision and the ensuing effect on economic stability have made the significance of entrepreneurship visible at the EU level.

The European Commission's reference framework on key competences for lifelong learning (2004) contains eight key competences, one of which is **entrepreneurship**<sup>2</sup>. The competences are defined as the totality of **knowledge, skills and attitudes**, which dovetails with the current context. The framework applies certain themes vital to all eight key competences: critical thinking, creativity, initiative, problem-solving, risk assessment, decision-making and constructive management of emotions. (European Commission 2004).

In the educational system, the forms of entrepreneurship are attached different weights depending on the age, stage of life and operating environment of the individual. Without activity, knowledge about context, way of working or pedagogy does not meet the criteria of entrepreneurship education. In light of

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## <sup>2</sup> Example 2: entrepreneurship

### (Framework for key competences in a knowledge-based society)

**Definition:** Entrepreneurship refers to an individual's ability to turn ideas into action. It includes creativity, innovation and risk taking, as well as the ability to plan and manage projects in order to achieve objectives. This supports everyone in day to day life at home and in society, employees in being aware of the context of their work and being able to seize opportunities, and is a foundation for more specific skills and knowledge needed by entrepreneurs establishing social or commercial activity.

### **Essential knowledge, skills and attitudes related to the competence**

Necessary knowledge includes available opportunities for personal, professional and/or business activities, including 'bigger picture' issues that provide the context in which people live and work, such as a broad understanding of the workings of the economy, and the opportunities and challenges facing an employer or organisation. Individuals should also be aware of the ethical position of enterprises, and how they can be a force for good for example through fair trade or through social enterprise.

**Skills** relate to proactive project management (involving skills such as planning, organising, managing, leadership and delegation, analysing, communicating, de-briefing and evaluating and recording), and the ability to work both as an individual and collaboratively in teams. The judgment to identify one's strengths and weaknesses, and to assess and take risks as and when warranted is essential. An entrepreneurial *attitude* is characterised by initiative, pro-activity, independence and innovation in personal and social life, as much as at work. It also includes motivation and determination to meet objectives, whether personal goals or aims held in common with others, and/or at work. (European Commission 2004)

the objectives set by the EU and Finland, future expectations focus on the accomplishment of entrepreneurial activities. The European tradition's new areas of emphasis with regard to substance and newly introduced methodologies support the progression of this process. From this perspective, entrepreneurship is integrated in and with the field of vocational education in the form of a life-long process, a reformer of functions, a way of working, a context, and the earning of a living that indicates entrepreneurship as a career. A wider view of entrepreneurship underscores the activity orientation that resides at the core of vocational education and in modern times has been capable of differentiating vocational education from the professionalization process. The proactive nature of vocational education in developing the skill sets of the world of work, organizations and individuals becomes clear in entrepreneurship. (Kyrö 2004b, 10–11).

### **3.5.3 Educational institutions as actors in vocational education**

The various educational institutions play a key role in entrepreneurship education. According to Meriläinen (2003), Finnish educational institutions perceive entrepreneurship education to be: cultivating entrepreneurial attitudes, awakening/promoting the internal entrepreneur, promoting mental growth, promoting an entrepreneurial way of working and also providing information about entrepreneurship. Koironen (2000, 3) defines growth into entrepreneurship as advances in knowledge, skills and attitudes while Luukkainen and Vuorinen (2002, 15) find entrepreneurship education to consist of developing and promoting internal and external entrepreneurship and entrepreneurial behaviour in both individuals and organizations. A study by Meriläinen (2003) revealed that representatives of a central Finnish educational institution felt educational institutions to have the main responsibility for entrepreneurship education. In their reasons for this, they expressed doubts as to the ability of homes and other parties to provide entrepreneurship education. Educational institutions were seen as the natural providers of entrepreneurship education. Among Meriläinen's respondents, 56 percent stated their need for help in developing entrepreneurship education, help in this context referring to general expert consultation, ideas on implementing entrepreneurship education, and overall information and collaboration with various parties, entrepreneurs in particular. (Meriläinen 2003, 1–2).

The respondents define entrepreneurship education as the provision of factual information about business activities and starting a business. Entrepreneurship education was seen a goal-oriented activity, the aim being an entrepreneur. Most of the respondents felt entrepreneurship was a matter of learning. One quarter felt that education geared to entrepreneurship needed to start no later than in lower secondary school. Pupils working in enterprises was seen as the pivotal means of linking theory and practice. The study revealed that a pro-entrepreneurship approach should be a quality typical of all education, as an interdisciplinary activity. Educating teachers and generating study materials

were deemed essential. The education needed to be a natural part of overall studies (Meriläinen 2003, 2–3). If educational institutions are to take entrepreneurship education seriously, careful consideration must be given to choosing the areas of emphasis.

Meriläinen's study leaves one conflicted. On the one hand, it stresses the cultivation of attitudes and awakening the internal entrepreneur, yet on the other it finds that entrepreneurship education consists of the provision of factual information about business activities and starting a business. It offers the solution of educating teachers, yet fails to go into the means and contents of such education, and the production of study materials, yet fails to elaborate on the nature of such materials. The topic of means and tools is ignored.

### 3.5.4 Summary of the vision of entrepreneurship education as weak signals

Weak signals are the first symptoms of change, often noticed by pacesetters and special groups (Kamppinen, Kuusi & Söderlund 2002, 162). An integral part of making the future is thorough argumentation bringing up possibilities that might otherwise go unnoticed (Kamppinen, Kuusi & Söderlund 2002, 170). Entrepreneurship education is becoming a powerful theme in education policy alongside self-direction and lifelong learning. Changes are being seen in values, observations, attitudes and demographic, economic and technological factors (Kasarda 1992, Leskinen 1999). The informed observation of weak signals and responding to these calls for intuition, sensitive antennae, a desire for growth and development, and a striving to improve activities and outcomes (Ruohotie 2000, 165).

Among the trends put forward by Himanen (2004), increasing pressures on the welfare society very much impinge on the future scenario of entrepreneurship education: population ageing, the new global division of labour, increasing pressures on the welfare society, the rise of cultural industries and the information society, regional concentration, instability in the world of work and the challenges of sustainable development. (Himanen 2004, 2–4). The information society is also a networked society characterized by a tension between globalization and resistance to globalization.

One of most well reasoned descriptions to date of this globalization development can be deemed to be Castells' (1996, 1997, 1998) theory of the network society. The foundation of the global network society is information, which means that dominant functions will become 1) based on information technology, 2) (globally) organized in the manner of information networks, and 3) operated with information (symbols). This results firstly in an economy whose dominant functions are based on global networked organization, the use of information technology and operation with information (symbols). Individuals succeeding in an information society must be flexible and capable of adapting to change. In order to manage this change, certain permanent fundamental values are needed, and education plays a major role in adopting these values.

In the global network society, the three focal areas for examining the future of entrepreneurship education according to Kyrö (2004b, 12) are the con-

ceptualization of entrepreneurship education and its role in the educational system, research into the individual and collective learning dynamic committed to action, and methodological reforms that will allow the study of the said matters.

In examining the role of occupation in the so-called post-occupational world of work, Lario and Puukari (2001, 184–189), like Himanen (2004) and Castells (1996, 1997, 1998), stress knowledge, information, multi-skills and the re-formation of work instead of occupations. The aims are flexibility, creativity and learning. Changes in society and the world of work are reflected in education policy. Powerful individualization and a wealth of choices underscore the importance of work towards identity, which in the young has a crucial impact on their wellbeing and future orientation. Factors to be taken into account include the status of parenthood and changes therein, factors relating to a sense of community and shared responsibility, and transitions in society. Vocational education alone does not guarantee employment, a factor that must be taken into consideration in the career choices of young people. In a dynamic job market, the right to work must be earned time and again, and people must learn to market themselves. Learning to learn and on the job learning become highlighted. An employee's identity is more often built on employer and project than on occupation.

Kemppainen (2005) describes a future vision of the 'hyper-human society' in which tasks requiring limited knowhow are automated while more tasks requiring comprehensiveness, systems intelligence, are created, thus making traditional job duties more comprehensive. Potential risks during the transition period, according to Kemppainen, are the short shelf life of skill and knowledge, the uncertainty of career planning, and risk-taking: the wise choice is to invest in refining one's comprehensive qualities. Work demands full commitment, which necessitates a consideration of tying up physical and mental resources. Kemppainen urges enterprises to refine their intellectual and social capital, i.e. to transform job duties towards comprehensiveness. Enterprises need to automate duties requiring limited knowhow in such a manner that these become comprehensive duties. For society, Kemppainen also calls on society to refine creativity, inventiveness, morality, enterprise and problem-solving in education and to recognize the value and productivity of human labour.

Like Himanen and Drexel, Kemppainen argues the essentiality of liberal arts education. People need to be able to organize cultural systems through the identification and generation of content through a comprehensive approach. A related aspect is the commercialization of expertise, which comprises the commercialization of thesis, substantive expertise, process expertise, project management and knowledge of foreign cultures. (Kemppainen 2005).

### **3.6 Summary and research setting for the examination of the skill sets of the small business entrepreneur**

The aim of this study is to describe the skill sets of small business entrepreneurs as expressed by entrepreneurs themselves and to define the work of the small business entrepreneur in the form of knowledge, skills and attitudes. Some knowledge consists of tacit knowledge, the transfer of which to a successor requires its more specific definition. The method of analysis represents the Bloomian view on the cognitive, affective and psychomotor qualities of skills, on which viewpoint the DACUM model employed as the data collection method is based. Literature is used to describe the views held by researchers as to the expertise of the entrepreneur and the competencies required therein. Additionally, working as an entrepreneur has been described from the perspective of expertise, and expertise requirements and entrepreneurship education vision in a phase of transition in business and industry have been charted.

Many entrepreneurship education programmes start with the functions a small business entrepreneur needs to be able to perform in order to work as an entrepreneur. The angle of view is mostly narrow and focuses on knowledge and skills. Attitude is left unaccounted for, and the field of things to be learned is large and fragmented. The comprehensive nature of entrepreneurship falls to the wayside. It is for these reasons that it is important to consult entrepreneurs themselves, specifically how they perceive the expertise of small business entrepreneurs and how they define the skill sets required to work as an entrepreneur defined as knowledge, skills and attitudes.

In this study, the work analysis charts created in the DACUM sessions charting the expertise of the small business entrepreneur are subjected to two rounds of analysis. In the first round, the cognitive (C), affective (A) and psychomotor (P) skills defined by the committees of entrepreneurs are analyzed in accordance with the Bloomian perspective. The second round of analysis consists of illustrating both the findings from both Finland and abroad by using a three-circle model designed for this purpose, the basic visual idea for which was obtained from Tagiuri and Davis (1996). After the analysis rounds, conclusions can be drawn on the map depicting the core of the small business entrepreneur's skill sets (CAP), which answers the question of what a small business entrepreneur feels he must be able to do. The detailed research setting is presented below in Figure 10:



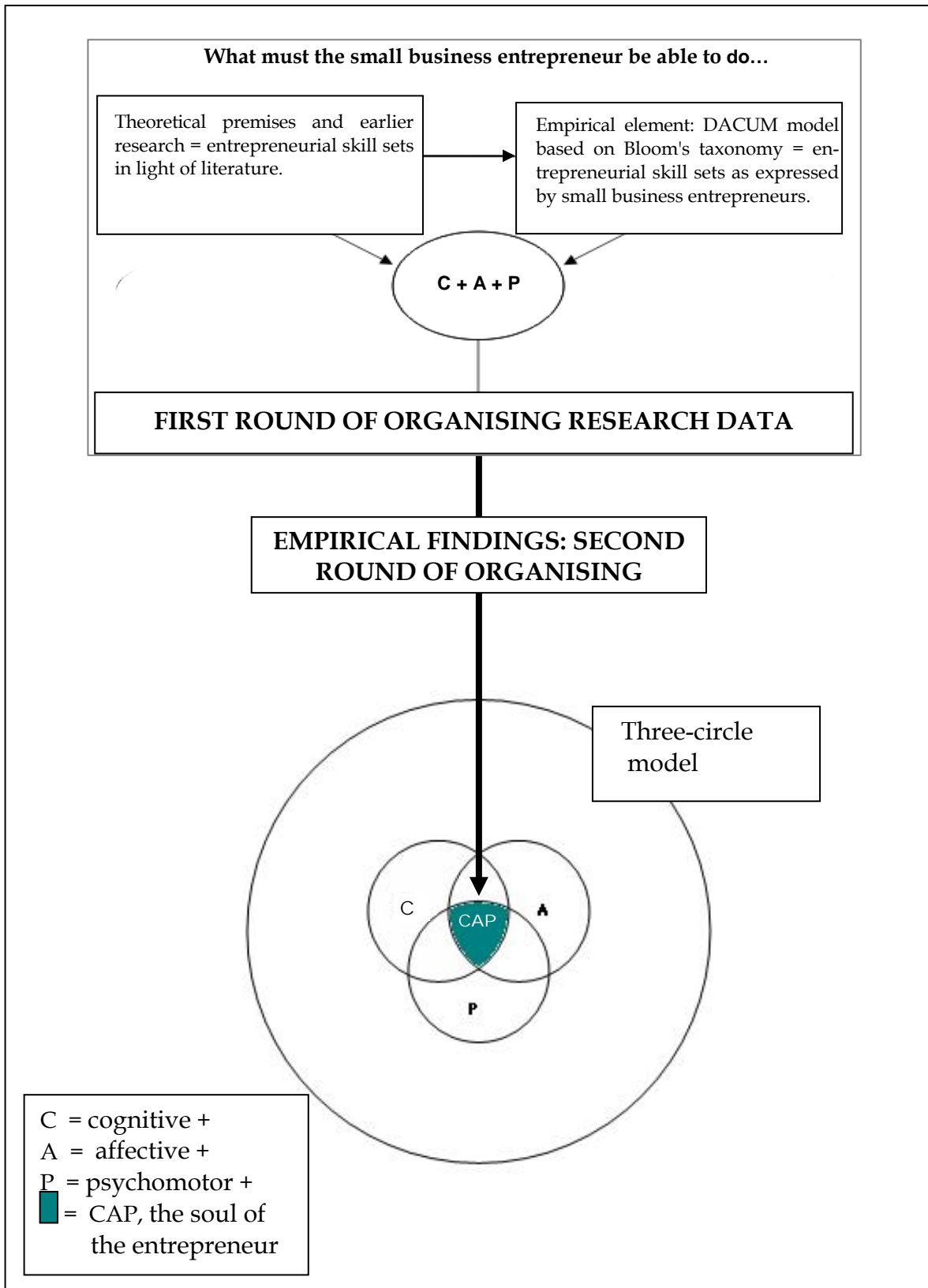


FIGURE 10 Detailed research setting

## 4 METHODOLOGICAL CHOICES AND EXECUTION OF THE EMPIRICAL STUDY

Chapter 4 presents the research problem, theoretical premises and views of entrepreneurship, knowledge and learning as well as the DACUM model as the data collection methods on which the empirical element of the study is based. The study is primarily qualitative and employs a phenomenographic research approach. The Chapter concludes with a description of data collection and the first round of analysis as well as an integration of the DACUM model and its competences into the framework of entrepreneurship.

### 4.1 Research task and research methodology

#### 4.1.1 Research problem

The research problem of this study is the following: What skills sets do small business entrepreneurs personally feel they must possess in order to be a successful entrepreneur? This research problem is examined through the following research questions:

- 1) What are the core skills or skill sets that entrepreneurs say make up their work, and what kinds of expertise are these made up of?
- 2) Which sub-skills make up the above core skills?
- 3) How can skill sets be classified into cognitive, psychomotor and affective elements?
- 4) How can knowledge and skills be divided into explicit and tacit elements?

#### 4.1.2 Theoretical premises

The research topic raises questions that concern pedagogy as well as business economics. The premises of the study can in the theoretical framework be located in ontology, or the study of existence, and epistemology, or the theory of knowledge. (Kyrö 2004a, 60).

#### **Ontological considerations**

One of the fundamental ways of examining human phenomena as well as the basic premises of research is ontology. (Rauhala 1993, 62). Ontology is the philosophical study of our beliefs and understanding of existence and the nature of the social world (Syrjälä, Ahonen, Syrjäläinen & Saari 1996, 77). If we make an ontological commitment concerning the nature of reality, we need to content ourselves with the fact that random connections between things are not possible. The fundamental issue is, what kinds of things we can study: we can have knowledge only about something that exists, something that is 'real', all other things inevitably remain outside the scope of knowledge. (Guba & Lincoln 1994, 107–108).

Pedagogy too can be examined in the light of its underlying ideas and choices. This allows us to see beyond manifest behaviour, examine the notions of society that govern the activities and thinking of small business entrepreneurs, how they understand knowledge, and which ideas about humanity and the world their manifest behaviour rests upon (Remes 2003, 109). Kyrö (2000a) has analyzed the phenomenon of entrepreneurship, and cannot find any ontological equivalence with the paradigms of pedagogy. This explains in practice the observation that entrepreneurship enjoys hardly any prestige in pedagogy. If we wish to develop the practices of entrepreneurship, they must perforce differ from the paradigms of pedagogics. (Remes 2003, 109–111).

All phenomena can be interpreted ontologically as being either objective or subjective. In the present study, the research topic is conceived as a subjectively constructed consensus opinion. In this study, the accounts of small business entrepreneurs about what they think they must be able to do in their work represent appraisals of the underlying paradigms of competence-based learning and entrepreneurship.

### **Epistemological considerations**

The epistemological assumptions of research refer to the researcher's ideas about the nature of knowledge. (Syrjälä, Ahonen, Syrjäläinen & Saari 1996, 77). Epistemology, or the theory of knowledge, is a discipline that seeks to answer such questions as what is knowledge, and how do we expect to acquire knowledge about the things that we believe exist? The subject matter of epistemology includes the concepts of knowledge, the origin and different types of knowledge, the possibilities of knowledge acquisition, and the reliability and certainty of knowledge. (Kyrö 2004a, 61). The epistemological question concerns the relationship between the researcher and the research subject, and also, on a more general level, what we can know. (Guba & Lincoln 1994, 107–108).

As defined by Plato, the classical idea of knowledge (Gr. *episteme*) is that it is justified true belief, that is, "knowledge is a correct assumption with an explanation".

Knowledge is therefore distinct from mistake and error, because the beliefs or ideas included within the scope of knowledge must be true. Moreover, knowledge cannot be true only by coincidence; a true belief must also be accompanied by an explanation that distinguishes the object of knowledge from all other objects. (Niiniluoto 2002, 30). According to the consensus theory of truth (Heikkinen, Huttunen & Moilanen 1999, 128; Tynjälä 1999, 26; Rasinkangas 2006, 27) a theory is true when everyone is in agreement about its truth. According to the pragmatic theory of truth (Peirce 1877, quoted in Niiniluoto 1986, 45; Tynjälä 1999, 25; Rasinkangas 2006, 13) a theory is true if it can be employed successfully as a basis of action. Both theories can be used to interpret small business entrepreneurs' idea about their own competence.

An entrepreneur's own idea of his/her competence is a justified true belief, because the DACUM model used for the collection of data (Coffin 2002; Glenndenning 1995) is based on the consensus of the participants - small busi-

ness entrepreneurs in this case – about what capabilities they must have. Every entrepreneur has a subjective view which develops into a consensus opinion during the DACUM session. According to Habermas (1981), under the consensus theory of truth and justice, a speech act is true if it is potentially acceptable by everyone. For Habermas, the arguability of a proposition does not depend on its truth value; on the contrary, the truth value of a proposition is dependent on its arguability against all possible counter-arguments. (Kusch 1986, 197–218).

The section on entrepreneurship education is based on the epistemological foundation of pedagogy – that is, the question of what constitutes knowledge in pedagogy and what are the limits and foundations of that knowledge. This is explicated using tools from the philosophy of science. The need for a dialogue between pedagogy and entrepreneurship has become increasingly apparent. According to Kyrö (2001), such a dialogue might also benefit pedagogy. Since entrepreneurship is a transitional phenomenon, a harbinger of new operational models and an environment of uncertainty, and since such conditions are expected to continue, entrepreneurship might also have some contribution to make to the development of the paradigms of pedagogy. Such a dialogue contains a limitless potential for research from the perspective of individuals, organizations, schooling system as well as society.

In discussing the definition of the concept of competence in this study, it was noted that from an epistemological viewpoint, competence can be compared to qualification, with the difference that the latter is a formal certification of a specific level of education achieved provenly in an institution. (Juceviciene & Lepaite 2005). According to Sveiby (2001), however, hardly any mention is made of the concept of competence in the philosophy of science. If we consider the construction of knowledge from the viewpoint of Plato's theory of knowledge, the practical level of things may well, according to Sveiby, remain unattainable. Accordingly, Sveiby seeks to discover those forms of the transfer of information and competence that affect the construction of knowledge in organizations, and also its utilization in the strategy process, for example (see 3.3). For Sveiby, the answer to the question of how knowledge, information and competence differ conceptually from each other is clear. Knowledge is a cognitive, information a technical, and competence a functional concept. Information is transmitted, and we use it to construct knowledge, our subjective interpretation of reality.

### **The knowledge constitutive practical interest**

The present study is founded on Jürgen Habermas' (1976, 118–140) idea of a practical or hermeneutic knowledge-constitutive interest. Research founded on this interest produces knowledge and interpretations of cultural symbols that are used by individuals in the process of socialisation. It allows the individual to understand the historicity of his/her own background. This practical interest transmits and understands tradition. According to Habermas, society is not merely a system for ensuring survival. Socialisation is governed by knowledge constitutive processes which thereby have a determinative effect on the indi-

vidual's life. Technical knowledge, which determines survival, needs to be augmented with practical knowledge. Practical knowledge determines the forms under which survival is possible. (Heikkinen, Huttunen & Moilanen 1999, 162; Leino & Leino 1991, 70). The practical interest seeks to attain hermeneutic knowledge of humanity or of the significance of cultural phenomena. Such knowledge is necessary for meaningful communication between humans. (Pietarinen 2002, 64; Leino & Leino 1991, 71).

According to Kyrö (2001), the purpose of the practical knowledge-constitutive interest is to attain a humanly understandable account of the phenomenon under study. This interest encompasses interpretative methods of data collection and analysis. These are used to study such things as the significance of the phenomenon and the reasons for the choices and behaviour of actors as well as their expectations, values and preferences. The practical interest is used to develop a value analysis that is based on the underlying interpretations of the phenomenon. Values in this study are plurality and the equality of interpretations. This knowledge-constitutive interest is used to try to find answers to questions such as: How can we attain a common view of the thing or phenomenon under study? What different interpretations of the phenomenon are there? (Kyrö 2001, quoted in Rubin & Lehtonen 2005, 4–5).

On the other hand, as noted by Pietarinen (2002, 64), communication is an essential aspect of any lifestyle based on a community of individuals. Pietarinen points out, however, that social life is threatened by disturbances in communication just as much as by any failure to control nature. According to Pietarinen, Habermas speaks of the practical interest as a means for safeguarding and promoting opportunities for mutual and self-understanding. For a study of entrepreneurial competencies, the central aspects of the practical knowledge-constitutive interest are the understanding of reality – something that embodies the potential of reaching a consensus despite disturbances in communication – and the production of knowledge that aims to safeguard and promote the mutual and self-understanding of communities.

### **4.1.3 The qualitative and phenomenographic approach**

The approach in this study is predominantly qualitative and phenomenographic. One central perspective for the selection of research methodology is the discipline under which the research is presented and which it references. Every scientific discipline seeks to define its own characteristic methods and uses them to justify its specificity. Differences between disciplines are considerable in this respect. (Kyrö 2004a, 104).

The study of qualitative learning starts from the premise of intentionality. Instead of merely reacting to external stimuli, humans are autonomous subjects who seek to construct a view of the world for themselves. We have an intentionality to articulate the world, to construct a mental map that places experiences in meaningful relationships to one another, and helps us make adequate decisions for action (Ahonen 1996, 121). Ahonen's approach is descriptive, examining people as individuals in light of historical research tradition. The re-

researcher's acknowledged subjectivity is recognised element of qualitative research; so is the fact that the researcher is a central instrument of research. (Eskola & Suoranta 1999, 211). The researcher's subjective conception of the subject and the people under study has a bearing on how he/she interprets the research data. In the present study, the researcher served as a facilitator in the DACUM data collection method, and also as a key research instrument and interpreter of data.

Phenomenography is a qualitative research methodology that is used to study how people perceive and think about something. In phenomenography, understanding is conceived as an active process that ascribes meaning to phenomena. (Uljens 1989, 7, 62–63.) Phenomenography is the study of how the world appears to people, how people perceive, understand, interpret and experience things and events, how they form ideas about them, and what types of structures people construct in their minds about reality. (Järvinen & Järvinen 2004, 189; Metsämuuronen 2003, 174–175; Marton 1994).

#### **4.1.4 Entrepreneurship and conceptions of knowledge and learning**

Advanced theories of entrepreneurship have a certain pragmatic validity, because they can be used to operate successfully. The conception of knowledge in such theories can be either pragmatic (Peirce 1877, quoted in Niiniluoto 1986, 45; Tynjälä 1999, 25; Rasinkangas 2006, 13) or constructivist. According to the pragmatic conception of knowledge, reality is an ongoing process within which people acquire knowledge of their environment through action. Truth for a pragmatist is knowledge that works in practice.

In addition to the pragmatist view, another major epistemology in the philosophy of science is the constructivist conception of knowledge. It is based on Kantian rationalist epistemology. (Tynjälä 1999, 25). According to the constructivist view, the constantly changing reality cannot be understood exclusively on the basis of perception and reason, observations must also be interpreted. Knowledge of the world changes constantly, and so do individuals and their ideas and notions. (Tynjälä 1999, 25–27; Niiniluoto 1999, 135).

Constructivism differs from other philosophies of science in that, for a constructivist, reality is relative, whereas in other philosophies it is objective. (Metsämuuronen 2001, 12; Ruohotie 2002a, 118–120). Some aspects of reality can be shared with others. Knowledge about this shared reality can be gained through an interactive contact between the researcher and the person(s) under study. The findings of the study consist of the researcher's interpretations concerning what the person has to say. (Metsämuuronen 2001, 12).

Constructivism can be roughly divided into two main categories, individual constructivism and social constructivism. (Tynjälä 1999, 26). Individual constructivism is based on Kantian epistemology and cognitive psychology. Its focus is on the description of the construction of knowledge by the individual, and of the cognitive structures and processes such as thinking, memory and perception. Knowledge is constructed actively by the individual and exists only through the individual subject. Cognitive psychology rivalled behaviourism in

the 1950s. Its central idea is the individual as a processor of information. (Tynjälä 1999, 39; Neisser 1967; Ruohotie 2002a, 110–112).

Social constructivism, by contrast, emphasizes the social construction of knowledge. Its focus is on the social, interactive and co-operative processes of learning. (Tynjälä 1999, 39). Entrepreneurial competencies can be examined from the viewpoint of different individuals such as the owner, the customer, the successor or the financier. From the perspective of entrepreneurship and entrepreneurial education, however, such competencies must be viewed also collectively, as instruments that create shared practices and norms. Entrepreneurial competencies are thus based on social constructivism.

According to Roos (2001), social constructivism is currently the dominant explanation in the social sciences for how our world and our notions of it are constructed. Whereas some 20 or 30 years ago, the general question was whether accounts of the world that were external to the natural scientific view had any real existence, we are now in a situation where the prevalent idea is that even natural laws are social constructions. Although we cannot deny certain physical facts in our life, this is scarcely relevant: what matters is linguistic communication, which is the vehicle through which our idea of reality is constructed. Reality is constructed socially and through language, and it is contingent, but it could be different. There is no reality in a universal sense. This also applies to natural phenomena and physical reality, which is always mediated. In a socially constructed world, two people cannot observe the same phenomenon and merely note its reality, they must also construct it. In other words, nothing exists until it is constructed. And nothing remains, unless it is constructed over and over again. (Roos 2001; Tynjälä 1999, 44–47; Vygotsky 1978).

In the present study, constructed observation is represented by the consensus reached by small business entrepreneurs as the result of a brainstorming workshop.

Social constructivism can also be characterized as a general, multi-disciplinary approach. It emphasizes language as a practice that not only describes the world, but also arranges, regenerates and alters social reality and ascribes meaning to it. For social constructivism, humans are linguistic, social and cultural beings. Knowledge is therefore always relative with respect to the interpretations of other people and to social contracts. These contracts vary from culture to culture, within a given culture and also historically, as a function of time. According to social constructivism, all knowledge arises from the intersubjective space. Truth is therefore not absolute, but a result of negotiation, that is, of social interaction. It is thus a very pragmatic concept in social constructivism, and the value and validity of things are determined on the basis of how they function in practice. (Tynjälä 1999, 26, 37–41, 57–60). Under this interpretation, the ideas expressed by small business entrepreneurs in the study constitute a negotiated result created in social interaction.

## **4.2 Data collection and first round of analysis**

### **4.2.1 The DACUM model as a data collection method**

The data collection method in this research was the Canadian DACUM model, an occupational analysis method used as a curriculum-planning tool and in human resources administration e.g. for the recording of tacit knowledge. This study demonstrates the feasibility and viability of the model for scientific research along with other purposes.

The data collection method entails the adoption of positions on how and where data is to be collected and also spells out in concrete terms the type of data collected. Questions such as what, where and how are interactive ones. The DACUM model used as the operational model in this research delivers a single-page occupation-analysis chart consisting of knowledge, skills and attitudes based on sessions with small business entrepreneurs using the brainstorming technique.

The focus groups for this research were selected in cooperation with the Finnish Federation of Enterprises and in Finland consisted of three groups of small business entrepreneurs meeting during autumn 2004 and spring 2005 in three towns: Helsinki, Oulu and Kuopio. Over the same time period, the research was reinforced with four other groups of entrepreneurs, three of which were located in Europe, i.e. Vienna, Budapest and Klaipeda, and one in Ankara, Turkey. The four countries are involved in Helsinki Business College's Global Entrepreneurship project and for the purposes of this research represent random selection. The mapping of the small business entrepreneur's skill sets and the tacit knowledge included therein by using the DACUM model provides an alternative perspective to an examination of entrepreneurial expertise. The underlying paradigm of competence-based education is evaluated by an experienced small business entrepreneur by recounting what he feels he must be able to do in his job.

The data collected in this research by using the DACUM model represents, to a certain degree, a new kind of research data in science. In the following chapter, it is treated as a job analysis based on the comprehensive DACUM approach. In keeping with the model, the manner of treatment is pragmatic, although fairly extensive theoretical background is available for the DACUM model. The works and materials describing these points of departure are discussed fairly extensively in Chapters 2.2 and 2.3.

#### **4.2.1.1 Components of the Canadian DACUM model**

The DACUM model used in Canada represents a fundamentally comprehensive approach to education. The model consists of seven components, which are described in the following in accordance with the manual authored by Coffin (2002):



1. **Analysis**

One of the principal components of DACUM is the analysis from which the curriculum for a training program is derived. A committee of 8–12 experts is convened for a 2–3 day session. The work of the committee is directed by a facilitator who has training in the DACUM method of analysis. The brainstorming technique is employed to identify the skills required to functions successfully in the occupation being analyzed.
2. **Rating scale**

A unique feature of the DACUM model is the way performance is evaluated. As DACUM is a competency-based model, the evaluation assesses individuals on how well they can actually perform skills. It is based on observing performance using a rating scale indicating the level of competency.
3. **Profiles**

In most cases, the analysis identifies several job classifications within an occupation or field. Profiles identify the particular skills required for a specific job classification. For example, in the fields of electronics technology, there are several job classifications such as electronic technologist, radio and TV technician, etc. This identification prioritizes the skills to be acquired by the learner as well as identifies the work entry skills required for the job classification. Profiles may also be used the criteria upon which a certificate is awarded.
4. **Program development**

The identification and development of learning resources for the training program is a major activity. For every skill identified in the analysis, a learning guide is prepared to assist the learner in the development of the skills. In addition, a learning package is identified or prepared to support each skill. Learning guides and resources may be a combination of print, audiovisual or electronic. The relationship between program development and program flexibility is directly proportional: the greater and more thorough the program development, the greater flexibility and options for the learner.
5. **Learning model**

The DACUM learning model employs competency-based education coupled with an individualized/personalized model of learning. The learner drives the system and has a prime responsibility for planning his learning as well as progressing through the program. The learner views the instructor as a partner in the learning process. Prior to confirmation of achievement, the learner must do a self-assessment of the performance. The learning model is designed to make the learner more confident and accountable for his actions. It also requires a high degree of decision-making and the acceptance of responsibility for one's own learning.
6. **Learning management**

The instructor's role in the DACUM model differs significantly from the role played in a more traditional model of education. The instructor is expected to manage and facilitate the learning rather than be the director of

learning. Both learner and instructor have distinct roles to play in the model. The instructor, however, has the overall accountability for the students' development and progress in the program. An instructor encourages the learner to seek out the information and apply it to the acquisition of a skill, counselling, motivating and providing encouragement to the learner in reaching goals. The instructor or learning manager plays a major role in the evaluation process. Following a self-assessment by a learner, the learning manager meets with the learner to confirm, raise or lower the self-rating. Evaluation sessions are usually conducted orally rather than written and are on a one-on-one basis. Ratings are based on observed actions.

#### 7. Certification

The DACUM analysis results in a job chart which may serve as a basis for certification. Levels of achievement can be recorded on the chart for each skill developed by the learner. When the profile has been completed, the student receives the chart with the level of competencies reached in each skill on the profile. This gives the employer a clear picture of the student's ability. Holland College, and other users of the DACUM model, design their record of achievement or certificate to suit their own institutional philosophy and criteria. The DACUM analysis is usually included in a single-page fold-out arrangement. The document usually provides an opportunity for the individual or the employer to record continuing achievement. (Coffin 2002, 8).

#### 4.2.1.2 Components of the analysis stage in the DACUM model

The following provides a more detailed examination of the first four components of the DACUM model, as the model plays a key role in this research. It contains four distinct components, each of which is described briefly in the following order: GACs (or core skills), sub-skills, rating scale and profiles.

##### 1. GACs and their identification

The General Areas of Competence (GACs), also referred to as core skills, describe a major function or responsibility of a particular occupation. They always commence with an action word, i.e. verb. In choosing the wording of a GAC, the committee can be aided by a card affixed to the wall reading "The individual must be able to...", the GAC to be formulated to follow this statement. The number of GACs per analysis varies and is usually dependent on the scope of the occupation being analyzed. For an analysis that includes four or five job classifications, one would expect to identify 10-14 GACs. On the other hand, an analysis of a specific job classification, e.g. receptionist, would contain between 7 and 10 GACs. The GACs are the foundation of the analysis and must be properly identified in order to develop a successful and valid analysis. The GACs are vertically structured on the left of the chart, with each one being further defined in horizontal bars representing discrete skills or tasks within each GAC.

Figure 11 demonstrates the placement of GACs in the DACUM chart:

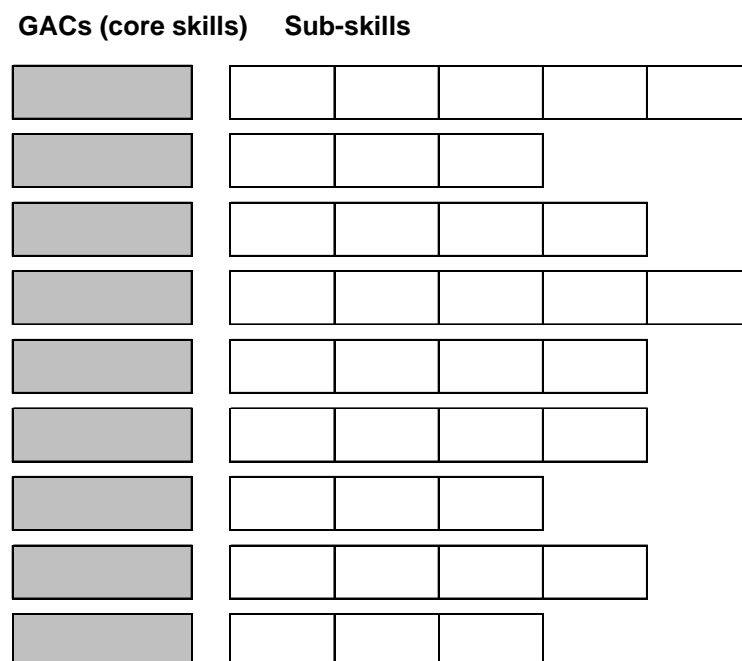


FIGURE 11 DACUM-analysis (Coffin 2002, 16)

## 2. Skills or tasks

Each GAC is further defined into skills or tasks. The skills are identified in behavioural terms and thus begin with an action verb depicting the applied behaviour. It is understood that the beginning for each skill is the statement: "Upon development of this skill, the individual will be able to..."

For every GAC that is identified, one would expect between 5 and 30 skill statements. Most analyses will have an average of 140–200 skills. The skills are horizontally structured on the chart in relation to their GACs as shown in Figure 11.

## 3. Rating scale

The addition of a rating scale greatly extends and enhances the use of a DACUM analysis. While developed as a measure of performance in an occupation, it can be adapted and applied for use in schools as well. The Approach to Curriculum Learning and Evaluation in Occupational Training, as designed by Adams (see Chapter 2.3) consisted of seven levels of rating on a hierarchical or sequential scale progressing from zero to six. Adams designed a scale based on the criteria of quality, quantity and amount of assistance or supervision required for competent performance of a task. Beyond this, ratings were available for exceptional speed and quality, initiative and adaptability, and for the ability to lead others.

The Adams system was modified by Holland College so that levels 1, 2, 3 and 4 are sequential. Level 4, however, consists of three segments, A, B and C, which are independent of one another and are not sequential. Thus a learner

may have a 4C rating without achieving a 4A or 4B. The Holland College scale is shown in Figure 12.

The definitions in the Holland College Rating Scale describe observable behaviour which can be evaluated by an instructor in school or by a supervisor on the job. The rating scale allows the DACUM analysis to be transferred from a school situation to a work situation. It also provides a means for learners to continue to develop skills and to receive credit for them throughout their working career. Table 15 shows a typical distribution of ratings of a student entering an occupation, an experienced worker in an occupation and a supervisor.

4	C	CAN PERFORM THIS TASK SATISFACTORILY AND CAN LEAD OTHERS IN PERFORMANCE
	B	CAN PERFORM THIS TASK SATISFACTORILY WITH INITIATIVE AND ADAPTABILITY TO SPECIAL PROBLEM SITUATIONS
	A	CAN PERFORM THIS TASK SATISFACTORILY WITH MORE THAN ACCEPTABLE SPEED AND QUALITY
3		CAN PERFORM THIS TASK SATISFACTORILY WITHOUT ASSISTANCE AND/OR SUPERVISION
2		CAN PERFORM THIS TASK SATISFACTORILY BUT REQUIRES PERIODIC ASSISTANCE AND/OR SUPERVISION
1		CAN PERFORM SOME PARTS OF THIS TASK SATISFACTORILY BUT REQUIRES ASSISTANCE AND/OR SUPERVISION TO PERFORM THE ENTIRE TASK.

FIGURE 12 The Holland College Rating Scale (Coffin 2002, 19)

The above Figure 12 illustrates the distribution of skills with their level of ratings for students completing a training program and entering employment, for a skilled employee and for a supervisor. A student completing a training program and entering the workforce would have the majority of ratings at the program level 2, which indicates they need some assistance and supervision in the performance of skills on the job. A skilled employee with 2–3 years' experience would be expected to work with much less supervision and assistance and would therefore have a majority of skills rated at level 3.

#### 4. Profile

In most cases, the scope of DACUM analysis covers a number of job classifications within an occupation. A profile is an identification of a specific job classification and is usually identified on a DACUM chart by colour or shading. Profiles are established after analysis has been completed and should be identified by representatives of an advisory board, i.e. representatives of the world of work. Profiles are useful for learners in identifying skills involved in their personal career goals.

#### 4.2.1.3 Preparing for the DACUM analysis

The DACUM process is a group activity utilizing the brainstorming technique. A successful analysis requires careful and detailed planning.

##### 1. Defining the scope of the analysis

Prior to identifying the qualifications and background experience of potential members of the analysis committee, the scope of the analysis must be determined. The occupation selected for analysis should be thoroughly researched to determine the following:

- i. What clustering of job classifications does the occupation have?
- ii. What size of business or firm employs workers?
- iii. What is the purpose or the application of the analysis?  
When the analysis is to be used for training and career development, the facilitator is required to work with the committee in identifying skills to be acquired later in an individual's career development. A comprehensive analysis usually allows for flexibility and choice when a learner must make career decisions. The occupation definition and parameters need to be precise in order to select the most suitable people for the analysis committee.
- iv.

##### 2. Selecting the committee

A well selected DACUM committee is a key factor in the successful identification of skills required in an occupational field. In the selection process, all efforts must be taken to avoid selecting members for political or public relations purposes. Experience has shown that committee members selected on the basis of these criteria have not been effective. Instructors or others who may be directly responsible for implementing the programme should not be members of the committee. This exclusion prevents the instructor from influencing the committee. Furthermore, skills should not be identified because of the personal interest of an instructor. It is important to remember that the prime criterion is the selection of a committee that represents the occupation and not a committee that represents the politics one might find in an organization.

Committee members should have the following technical qualifications

- i. Competence in the occupation and a minimum of ten years' experience if possible.
- ii. Presently employed on a full-time basis.
- iii. Expertise recognized by peers.
- iv. Extensive work experience in a variety of positions

Committee members should have the following personal qualifications: can articulate the competencies required, i.e. skill sets; can devote full-time to the analysis session; possesses group interaction skills and has functioned as a team member; considered by associates to be up to date and anticipate future

requirements; and is open minded and confident. Committee members must be as free from bias as possible and be open to new concepts and ideas. The fact that the DACUM approach may be totally new to them will require them to see differently some training traditions. The brainstorming technique requires the committee members to have confidence in themselves in order to have the other members on the committee understand and agree with their point of view.

### 3. Selecting the facilitator and the recorder

The success of the DACUM analysis session is greatly dependent upon the skills and expertise of the facilitator. The facilitator must possess not only technical competence in analyzing occupations but a wide array of personal competencies in dealing with people. The facilitator must be thoroughly knowledgeable with the DACUM methodology and totally committed to the process. The DACUM approach is highly structured and while there is some flexibility, its parameters must be adhered to or the process and product will be at risk.

It is not necessary for the facilitator to have expertise in the particular occupation being analyzed; in fact, it may be an advantage not to possess such expertise. A facilitator must rely on general technical ability in the understanding of occupational analysis and in his/her personal competencies. Experience has proven that when a facilitator undertakes a DACUM analysis session and has not had a training programme or an opportunity to assist an experienced facilitator in leading an analysis session, the results are less than satisfactory and the benefits of the DACUM approach are jeopardized.

One of the key tasks of the facilitator is to help the committee select the appropriate action verb to describe a skill as it is used in the occupation. The facilitator may perform this task by suggesting an action verb with which to start a sentence defining the skill. The scope of the occupation defined at the initial stages should be borne in mind, as should the fact that skills of all levels are generally present in most occupations. The analysis must faithfully describe the skills required in the occupation analyzed. The distribution of skills is vital to the credibility of the analysis, necessitating care in the selection of action verbs. Adams (1975) describes the various levels of skills: Level I - simple, direct skills; level II - routines; level III - task-oriented skills; and level IV - overall or over-riding skills. (Glendenning 1995).

The facilitator is a process expert, not a content expert. This can create considerable anxiety for the facilitator because the lack of technical knowledge relative to the field being analyzed. In this context, the facilitator must rely on and trust the expertise of the committee members, thus making the ability to work under stress an important quality for the facilitator. The recorder writes the skills on cards in a clear and concise manner during the analysis process. He/she must anticipate consensus within the committee and label cards accordingly for the facilitator. The recorder does not enter into the discussion or talk with the facilitator except at breaks.

### 4. Orienting observers

In many cases, it is desirable to invite interested people to the analysis ses-

sion to observe the process. These people are not necessarily competent in the occupation being analyzed but might be interested in the concept and eventually may employ the DACUM process in their own programme or organization. The presence of observers is primarily seen as an opportunity to promote the DACUM technology. Observers should also be oriented to their role so as not to interfere with or impede the analysis process. (Coffin 2002, 24).

#### **4.2.1.4 The DACUM model and the skill sets, i.e. competences and attitudes of the small business entrepreneur**

The DACUM model is built around general areas of competence (GAC) or core skills (see section 4.2.1.) each of which involves different sub-skills. Core skills can be divided into 1) factual core skills, i.e. core skills vital to an occupation or job duties, and 2) core skills arising from personal skills, which are a part of a person's overall personality, such as traits, attitudes, values and motivation (cf. Bloom 1956; Bloom & Krathwohl 1956; Krathwohl, Bloom & Masia 1964; Dave 1967 & 1970).

Alongside explicit knowledge, core skills may also comprise tacit knowledge that comes to light when working and in e.g. demonstrations for vocational qualifications. Each employee and each enterprise possesses a great deal of individual and collective tacit knowledge (see section 3.3.). Tacit knowledge can be discovered in e.g. the utterances of the small business entrepreneurs into which they encapsulate their perhaps years of experience (see sections 4.2.2.6 and 4.2.3.6). These sub-skills do not always readily translate into skills starting with an action verb. In such an event, the facilitator must consider how best to record the information content of the utterances. This calls for good judgment so that all possible information can be recorded for subsequent analysis.

Once the small business entrepreneur's work analysis chart has been constructed in the analysis session by the committee members, it can be put to many uses by the small business entrepreneur, who may for example determine the skill sets and levels of development therein required of new employees. A starting level is also determined for each skill:

- i. Can perform the task with supervision.
- ii. Can perform the task with occasional supervision.
- iii. Can perform the task without supervision.
- iv. Can apply the necessary skills in problem situations and transfer skills to others as well. (TABLE 15)

TABLE 15 Identification of learning/training needs in a DACUM analysis chart (Coffin 2002, 18-21 & Appendix J)

The employee must be able to...																																
A. Create /maintain programs and services	1. Design programs/services	2. Evaluate programs/services	3. Promote /market programs/services																													
	3 2 2	3 2 2 *	3 2 2	3 2 2 *																												
B. Obtain/ distribute sources of information	1. Choose information source	2. Obtain information source	3. Receive /take into use information source	4. Take inventory																												
	3 3 3	3 3 3	3 3 3	3 2 2 *																												
<table border="1"> <tr> <td>S</td> <td>SR</td> <td>EA</td> <td>LN</td> </tr> </table> <p>S: performance standard                      SR: Self-assessment rating                      EA: Employer's rating                      LN: Learning need</p> <p>Rating scale</p> <table border="1"> <tr> <td rowspan="3">4</td> <td>C</td> <td>CAN PERFORM THIS TASK SATISFACTORILY AND CAN LEAD OTHERS IN PERFORMANCE</td> </tr> <tr> <td>B</td> <td>CAN PERFORM THIS TASK SATISFACTORILY WITH INITIATIVE AND ADAPTABILITY TO SPECIAL PROBLEM SITUATIONS</td> </tr> <tr> <td>A</td> <td>CAN PERFORM THIS TASK SATISFACTORILY WITH MORE THAN ACCEPTABLE SPEED AND QUALITY</td> </tr> <tr> <td>3</td> <td></td> <td>CAN PERFORM THIS TASK SATISFACTORILY WITHOUT ASSISTANCE AND/OR SUPERVISION</td> </tr> <tr> <td>2</td> <td></td> <td>CAN PERFORM THE THIS TASK SATISFACTORILY BUT REQUIRES PERIODIC ASSISTANCE AND/OR SUPERVISION</td> </tr> <tr> <td>1</td> <td></td> <td>CAN PERFORM SOME PARTS OF THIS TASK SATISFACTORILY BUT REQUIRES ASSISTANCE AND/OR SUPERVISION TO PERFORM THE ENTIRE TASK.</td> </tr> </table>													S	SR	EA	LN	4	C	CAN PERFORM THIS TASK SATISFACTORILY AND CAN LEAD OTHERS IN PERFORMANCE	B	CAN PERFORM THIS TASK SATISFACTORILY WITH INITIATIVE AND ADAPTABILITY TO SPECIAL PROBLEM SITUATIONS	A	CAN PERFORM THIS TASK SATISFACTORILY WITH MORE THAN ACCEPTABLE SPEED AND QUALITY	3		CAN PERFORM THIS TASK SATISFACTORILY WITHOUT ASSISTANCE AND/OR SUPERVISION	2		CAN PERFORM THE THIS TASK SATISFACTORILY BUT REQUIRES PERIODIC ASSISTANCE AND/OR SUPERVISION	1		CAN PERFORM SOME PARTS OF THIS TASK SATISFACTORILY BUT REQUIRES ASSISTANCE AND/OR SUPERVISION TO PERFORM THE ENTIRE TASK.
S	SR	EA	LN																													
4	C	CAN PERFORM THIS TASK SATISFACTORILY AND CAN LEAD OTHERS IN PERFORMANCE																														
	B	CAN PERFORM THIS TASK SATISFACTORILY WITH INITIATIVE AND ADAPTABILITY TO SPECIAL PROBLEM SITUATIONS																														
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1		CAN PERFORM SOME PARTS OF THIS TASK SATISFACTORILY BUT REQUIRES ASSISTANCE AND/OR SUPERVISION TO PERFORM THE ENTIRE TASK.																														

The core skills are analyzed by using Bloom's taxonomy (see section 2.2), thus interpreting the competence-based job expertise as 1) cognitively developing thought processes - cognitive skills, 2) affective expertise process - affective skills, and 3) psychomotor expertise processes - psychomotor skills. From the viewpoint of entrepreneurship education, cognitive skills mainly correspond to internal and external entrepreneurship while affective skills correspond to spontaneous entrepreneurship and tacit knowledge can be located in e.g. psychomotor skills.

In this study, the researcher is a facilitator, observer and interpreter whose role in the DACUM session is to prompt discussion, not formulate opinions.



The researcher's interaction with the analysis committee relies both a pragmatic and constructivist conception of knowledge (see 4.1.4).

In the DACUM seminar, the participants each see their skill sets subjectively, bring these up in interaction with the committee and thus arrive at definitions of shared core skills or sub-skills as a consensus decision. The construction and re-construction (Tynjälä 1999, 44–47) of the skill definitions takes place during a single session. First, a definition of one's own skills is formed, then a re-constructed view arising from interaction, and finally a re-constructed shared view. The DACUM model is implemented in the social interaction described by Tynjälä (Tynjälä 1999, 26, 37–41, 57–60) and knowledge arises from the small business entrepreneurs' intersubjective space in accordance with social constructivism. The core skills or the sub-skills contained therein do not represent an absolute truth but are rather the consensus decisions of the small business entrepreneurs, i.e. the negotiated results.

#### **4.2.2 DACUM seminars in Finland**

The focus group for the research, in cooperation with the Federation of Finnish Enterprises, was established as three groups of small business entrepreneurs in three towns in Finland: nine entrepreneurs from Helsinki, thirteen from Oulu and eight from Kuopio, who were convened in autumn 2004 and spring 2005 (sample invitation enclosed as Appendix 1). Background information on the attendees was collected with a 27-item questionnaire (sample questionnaire enclosed as Appendix 2). The key features of each group of small business entrepreneurs, as collated from the responses, are presented for each seminar. The participating small business entrepreneurs produced a collective opinion which was fleshed out into a consensus decision during the session, based on each attendee's personal and individual views as to the various skills contained in their knowhow.

##### **4.2.2.1 First DACUM seminar in Helsinki**

The first DACUM seminar was held in Helsinki on 10–11 November 2004. It was attended by nine persons, four women (44.44%) and five men (55.56%). Putting the group together proved one of the most difficult tasks of the entire study. At first, the Federation of Finnish Enterprises selected a list of 42 entrepreneurs from among the small business and family business entrepreneurs in their registers serving in managerial capacities in their local chapters or on the demonstration committees for further qualification of entrepreneur. All were sent an invitation to attend the seminar (Appendix 1). Much advance thought was put into the attractiveness of the event and a noteworthy pro-entrepreneurship public figure was booked to give a brief lecture at the seminar. The goal was to obtain a regionally and industrially representative sample of female and male small business entrepreneurs in the Helsinki Region.

Only four invitees responded, two of these regretting that they could not attend due to scheduling difficulties. Another push to assemble the group was

then started using the researcher's personal network of contacts. Initially planned for September, the seminar nonetheless had to be pushed back to November due to a lack of participants. After dozens of contacts, twelve entrepreneurs had signed up for the seminar. Three of these either cancelled at the last minute or failed to show up. As the optimal DACUM group size is 8–12 persons, the number of participants nonetheless met the reliability criteria.

The key features of the respondents were:

- 66.67% of the group were aged between 40 and 49, 22.22.% were over the age of 60
- 33.33% had polytechnic studies, an equal number had university studies and 22.22% had studies at a vocational educational institution
- 25% were experts and 57.14% had started their business themselves
- the most common business size measured by employees was 0–4 persons (77.78%) and the most common company form was limited liability company (77.78%)
- revenue varied from €10,000 to more than €3,000,000, falling for the most part (50%) within the range of €10,000 – €159,999
- the line of business of the companies varied from transportation of persons (11.11%) to trade (22.22%), information technology (22.22%) and management consulting (22.22%)
- 50% of the businesses were wholly family-owned
- successorship was not a topical issue within the next ten years for 44.44% of the businesses and 50% of the businesses had a successor within the family

Over the course of the two-day DACUM seminar, the small business entrepreneurs in Helsinki prepared a single-page job analysis chart, from which the GACs as defined by them, shown in the following Table 16 (from Appendix 4), were included in first-stage analysis:

TABLE 16 Small business entrepreneurs' GACs in Helsinki in DACUM analysis

Small business entrepreneur's GACs in the Finnish DACUM seminars, in order of importance	
Helsinki 10–11 November 2004	
The entrepreneur must be able to...	
1	Become an entrepreneur
2	Manage the business
3	Manage himself/herself
4	Plan and develop products
5	Market products and services
6	Manage finances
7	Manage personnel
8	Develop the business
9	Organize the work
10	Communicate
11	Manage knowledge

#### 4.2.2.2 Second DACUM seminar in Oulu

The second DACUM seminar was held in Oulu on 16–17 March 2005. It was attended by thirteen persons, ten women (76.92%) and three men (23.08%). As the difficulties in gaining access to entrepreneurs were already known, the focus at the very outset was to locate, in cooperation with the Federation of Finnish Enterprises, not only potential participants from the Federation's registers but also networks of entrepreneurs through whom better results could be obtained. The situation in Oulu as well seemed hopeless as first: a round of calls to the key groups delivered three entrepreneurs of whom two arrived late and left early. The association of woman entrepreneurs in Oulu saved the day, and the seminar was finally held with a committed and enthusiastic team of entrepreneurs.

The key features of the respondents were:

- 56.33% of the group were aged between 50 and 59, 41.67% were over the age of 60
- 39.77% had completed comprehensive school or equivalent, 53.84% had vocational or other education, one had a polytechnic background and none had a university background
- 44.44% were managing directors, 27.78% were Board members and 57.14% had themselves started the business
- the most common business size measured by employees was 0–4 persons (53.85%), 30.77% had 5–9 employees and the most common company form was limited liability company (64.29%)
- revenue varied from €50,000 to more than €3,000,000, falling for the most part (44.44%) within the range of €500,000 – €2,999,999, and 33.33% having revenue of €160,000–€499,999

- the line of business of the companies varied from electrical contracting (7.69%) to trade (38.45%), real estate agency and property management (7.69) and care for the severely disabled in the social services sector (7.69%)
- 50% of the businesses were wholly family-owned
- successorship was not a topical issue within the next ten years for 44.44% of the businesses and 50% of the businesses had a successor within the family.

Over the course of the two-day DACUM seminar, the small business entrepreneurs in Oulu prepared a single-page job analysis chart, from which the general areas of competence as defined by them, shown in the following Table 17 (from Appendix 5), were included in first-stage analysis:

TABLE 17 Small business entrepreneurs' GACs in Oulu in DACUM analysis

Small business entrepreneur's GACs in the Finnish DACUM seminars, in order of importance	
Oulu 16–17 March 2005	
The entrepreneur must be able to...	
1	Plan the company's activities
2	Sell products/services
3	Market the products
4	Serve customers
5	Manage the business
6	Purchase products, services and materials
7	Master financial administration
8	Organize operations
9	Attend to human resources administration

#### 4.2.2.3 Third DACUM seminar in Kuopio

The third DACUM seminar was held in Kuopio on 16–17 June 2005. It was attended by eight persons, five women (62.50%) and three men (37.50%). The DACUM seminar in Kuopio was held only a week before Midsummer and the impending holiday season only further hindered the enrolment of entrepreneurs. Uncertainty as to obtaining the requisite number of participants reigned until the seminar was about to begin. Fortunately, one entrepreneur with a keen interest in the topic had, without advance notice, brought along a friend, thus bringing the number of participants to the required minimum of eight. The group was more analytical than previous groups, which is reflected i.a. in the low number of tasks in the skill chart.

Key features of the respondents were:

- 37.50% of the group were aged between 50 and 59, 25% were between 40 and 49 years of age

- 33.33% had university studies, an equal number had polytechnic studies
- 50% were managing directors, 30% were Board members and 57.14% had themselves started the business
- the most common business size measured by employees was 0–4 persons (62.50%), 25% had 5–9 employees
- revenue varied from €50,000 to more than €2,999,999, falling for the most part (57.14%) within the range of €160,000–€499,999
- the line of business of the companies varied from the care sector (25%) to gardening (12.5%), consultancy in various sectors (12.5%), accounting firms (12.5%) and services (12.5%)
- 85.71% of the businesses were wholly family-owned
- succession had already been accomplished in 28.57% of the businesses in 66.67% had a successor within the family

Over the course of the two-day DACUM seminar, the small business entrepreneurs in Kuopio prepared a single-page job analysis chart, from which the general areas of competence as defined by them, shown in the following Table 18 (from Appendix 6), were included in first-stage analysis:

TABLE 18 Small business entrepreneurs' GACs in Kuopio in DACUM analysis

Small business entrepreneur's GACs in the Finnish DACUM seminars, in order of importance	
Kuopio 16–17 June 2005	
The entrepreneur must be able to...	
1	Have strong professional skills
2	Master business knowhow
3	Have an entrepreneurial personality
4	Be motivated
5	Manage big pictures
6	Have social skills
7	Have a sense of situations
8	Be able to prioritize
9	Know one's own limits

#### 4.2.2.4 Views of attendees in the Finnish seminars on the qualities of entrepreneur

All participating Finnish small business entrepreneurs were asked an open question: what are the qualities they most value in an entrepreneur? The following Table 2 summarizes the six most important qualities in the entrepreneurs' personal estimation:

TABLE 19 Six most important qualities of the Finnish small business entrepreneurs in the entrepreneurs' personal estimation

Helsinki	Oulu	Kuopio
honesty	honesty	sustained commitment
enthusiasm	diligence	honesty
professionalism	professionalism	professionalism
strength of will and diligence	long-term commitment	reliability
creativity	outgoing nature	social skills
knowledge of the economy	responsibility and respect for others	business expertise

Lastly, all participants were asked whether they would be willing to attend a further study. In Helsinki, 85.71 percent were willing. The figure in Oulu and Kuopio was 100 percent.

#### 4.2.2.5 Summary of the Finnish seminar participants' views of the cognitive, affective and psychomotor core skills and most important qualities of the small business entrepreneur

The skills from the job analysis charts of all three DACUM groups are presented in Table 3 and also classified as cognitive, affective or psychomotor as well as cognitive-affective, cognitive-psychomotor, affective-psychomotor or cognitive-affective-psychomotor skills according to Bloom's taxonomy. The classification was performed by the researcher, who served as facilitator to the groups. The classification was reviewed by the researcher and the experienced sociologist and pedagogue who attended each DACUM seminar and served as recorder. The classification was based on subjective interpretation of both the job analysis charts of the three seminars and observations made during the seminars. Differences of opinion were discussed until consensus was reached.

After classification, the various sub-skills were added together and the numbers of each sub-skill listed to facilitate comparisons.

Core skills of the small business and small family business entrepreneur in the Finnish DACUM analyses					
Helsinki, 10–11 November 2004		Oulu, 16–17 March 2005		Kuopio, 16–17 June 2005	
The entrepreneur must be able to...					
Become an entrepreneur	A	Plan the company's activities	C	Have strong professional skills	CAP
Manage the business	CAP	Sell products/services	CAP	Master business knowhow	C
Manage himself/herself	A	Market the products	CAP	Have an entrepreneurial personality	A
Plan and develop products	C	Serve customers	AP	Be motivated	A
Market products and services	CAP	Manage the business	CAP	Manage big pictures	C
Manage finances	CP	Purchase products, services and materials	P	Have social skills	A
Manage personnel	CAP	Master financial administration	CP	Have a sense of situations	C
Develop the business	C	Organize operations	CP	Be able to prioritize	P
Organize the work	CP	Attend to human resources administration	CA	Know one's own limits	A
Communicate	A				
Manage knowledge	C				
C = 3/11 → 27/99		C = 1/9 → 11/99		C = 3/9 → 33/99	
A = 3/11 → 27/99		P = 1/9 → 11/99		A = 4/9 → 44/99	
CP = 2/11 → 18/99		CA = 1/9 → 11/99		P = 1/9 → 11/99	
CAP = 3/11 → 27/99		CP = 2/9 → 22/99		CAP = 1/9 → 11/99	
		AP = 1/9 → 11/99			
		CAP = 3/9 → 33/99			

TABLE 20 Classification of GACs in the three Finnish DACUM seminar groups

<b>C</b>	=	cognitive core skills,	Finns total	<b>71/99</b>
<b>CA</b>	=	cognitive-affective core skills	"	11/99
<b>CP</b>	=	cognitive-psychomotor core skills	"	40/99
<b>A</b>	=	affective core skills	"	<b>71/99</b>
<b>P</b>	=	psychomotor core skills	"	<b>22/99</b>
<b>AP</b>	=	affective-psychomotor core skills	"	11/99
<b>CAP</b>	=	cognitive-affective-psychomotor core skills	"	<b>71/99</b>

When asked an open-ended question, all three Finnish DACUM seminar groups highlighted in a parallel fashion the six most important qualities of the entrepreneur (see Table 19). In order to ensure their success, small business entrepreneurs must possess certain basic qualities such as diligence, initiative,

long-term commitment, the ability to work together with others, and boldness (cf. section 3.1.3, Table 9). Vocational entrepreneurship education, however, fails to reinforce most of the qualities put forward by the entrepreneurs. Only the most educated entrepreneurs participating in Kuopio brought up as one of the necessary qualities business expertise, a quality which can be learned in entrepreneurship education.

#### 4.2.2.6 Utterances in the Finnish DACUM job analysis charts

At the outset of research data analysis, the utterances describing personal expertise recorded during the seminars were extracted into a distinct group. These utterances are analyzed separately in the following Table 21. In the DACUM model, choice of action verb is of key relevance to interpretation. During the session, we wished to include utterances that were important to the small business entrepreneur but did not lend themselves to expression as a statement beginning with an action verb without compromising interpretation. The classification into the seven Bloomian categories was performed by the researcher, who served as facilitator to the groups, and reviewed together with the recorder who attended each DACUM seminar (see 4.2.1.3). The classification here as well was based on subjective interpretation, and differences of opinion between researcher and recorder were discussed until consensus was reached.

TABLE 21 Utterances in the work analysis charts of the Finnish DACUM seminars

<b>Utterances describing the expertise of Finnish small business entrepreneurs</b>						
Cognitive	Psychomotor	Affective	Cognitive- psychomotor	Cognitive- affective	Psycho- motor- affective	Cognitive- affective- psychomotor
	Everybody does everything	You can't judge a book by its cover.		You must not betray the customer in purchases.	Friends frequent friends.	
	You learn by doing.	Not being naïve			Phone a friend.	
		People can manage anything when they have to.			Stupidity will teach you	
		If you can't win, you've got to lose.				
		Never quit.				



The various analyses of the job analysis charts of Finnish small business entrepreneurs did not attach importance to purely psychomotor skills, whereas these along with psychomotor-affective skills can be found in the utterances. Affective skills are nonetheless most clearly in evidence. Psychomotor and psychomotor-affective skills expressed as “you learn by doing”, “friends frequent friends,” and also “stupidity will teach you” contain tacit knowledge, regarding which Chapter 3.3 states that we all employ a mental model which we have developed over the course of our lives, through trial and error, and which we have found to be effective. When asked, we are seldom able to recount it for others in explicit terms, but for some reason it functions within us intuitively, as tacit and silent knowledge and emotion. On the one hand, it involves skills of the hand, experience-based expertise and skill-related views, on the other beliefs, ideals, mental models and schemes deep within us and often so self-evident as to be difficult to perceive consciously.

#### **4.2.3 DACUM seminars abroad**

The research was reinforced with four other seminars of small business entrepreneurs within the time frame of the study. Three took place in Europe: five entrepreneurs from Vienna, eight from Budapest and seven from Klaipeda, while one seminar was held in Ankara, Turkey, with nine participants. In these DACUM seminars as well, the participants produced communal views. The personal views certainly held by all participants were refined during the session into consensus views. The four countries mentioned are involved in Helsinki Business College’s Global Entrepreneurship project and for the purposes of this study represent random selection. The said project is part of an international entrepreneurship study funded by the National Board of Education of Finland, in which fact-finding was kicked off with the DACUM seminars held for local small business entrepreneurs. A survey of the small business entrepreneurs’ skill sets through literature revealed that small business entrepreneurship has largely lost its local flavour, succumbing to an intense trend towards a global economy through i.a. networking. It was therefore essential in terms of the validity of the research to take into consideration the views of international small business entrepreneurs as well as to the skills required.

##### **4.2.3.1 Fourth DACUM seminar in Ankara**

The fourth DACUM seminar was held in Ankara, Turkey on 30 March 2005. It was attended by nine participants, all of whom were men (100%). The group in Turkey was put together by Ankara Esnaf Ve Sanatkarlar Odalari Birligi, a federation of trade unions, and its Secretary General Abdulrahman Varol in cooperation with Cankiri College of Arts and Technology, Ankara University. As the DACUM model is highly structured, a decision needed to be taken at the outset on the application of certain principles. Since the entrepreneurs could not commit for longer than one day, the theoretical portion of the model was severely

curtailed in favour of “getting down to business”.

None of the participants spoke English and an interpreter was thus used. Interpretation may have affected the entrepreneurs’ choices of action verbs, yet the consensus technique inherent to the model largely eliminates any language-related misinterpretation. The facilities, which resembled a variety theatre, also called for a certain degree of creativity to accommodate the technical aspects of the model.

The key features of the respondents were:

- 55.56% of the group were aged between 50 and 59, 33.33 % were between 30 and 39 years of age, 11.11% were over the age of 60
- 22.22% had university degrees, an equal number had matriculated, 44.44% had finished comprehensive school and 11.11% had a vocational education
- 45% were managing directors and 88.89% had themselves started the business
- the most common business size measured by employees was 0–4 persons (77.78%)
- revenue varied from slightly under €10,000 to more than €3,000,000, most businesses (85.71%) having a revenue of less than €500,000
- the line of business of the companies varied from clothing store (16.67%) to taxi operator (33.33%), grocery store (16.67%), telecommunications (16.67%) and electrical industry (16.67%)
- all of the businesses were wholly family-owned
- succession was a topical issue for 33.33% of the businesses and 88.89% had a successor within the family

Over the course of the one-day DACUM seminar, the small business entrepreneurs in Ankara prepared a single-page job analysis chart, from which the general areas of competence as defined by them, shown in the following Table 22 (from Appendix 7), were included in analysis:

TABLE 22 Small business entrepreneurs’ GACs in Ankara in DACUM analysis

Small business entrepreneur’s GACs in the international DACUM seminars, in order of importance	
Ankara*, Turkey, 30–31 March 2005    *)original according to Appendix 7	
The entrepreneur must be able to...	
1	Be a good craftsman and tradesman
2	Be trustful (reliable)
3	Plan work
4	Provide sustainability
5	Manage human resources
6	Follow technological development
7	Market products/services
8	Generate income
9	Have more customers
10	Understand owner’s way of running the business

#### 4.2.3.2 Fifth DACUM seminar in Vienna

The fifth DACUM seminar was held in Vienna, Austria on 25–26 April 2005. It was attended by eight participants, one of whom left during the first hour due to lack of English or German, and two others departed after the morning session citing other urgent business. The two-day seminar was ultimately attended by three men and two women. The group had been put together by the representatives of Wirtschaftsförderungsinstitut Internationaler Know-HowTransfer, Wirtschaftskammer Österreich, who due to several cancellations had experienced some difficulty in assembling the required eight participants.

In Vienna as well, a decision needed to be taken at the outset on the application of certain principles. Though attendance was lower than desired, language posed no problems. The seminar was executed in English, yet the facilitator/researcher and recorder could easily also keep up with the entrepreneurs' discussions in German as they made their own observations during the course of the seminar. The setting and overall arrangements were in line with expectations.

The key features of the respondents were:

- 60% of the group were aged between 50 and 59, 20% were aged 20–29 and 20% were between 30 and 39 years of age
- 60% had a polytechnic degree, 20% had finished comprehensive school and 20% upper secondary school
- 40% were managing directors, 60% other managers or experts, and 80% had themselves started the business
- the business size measured by employees was 0–4 persons for all companies
- revenue varied from €50,000 to €160,000
- the line of business of the companies varied from consultancy (60%) to communications (20%) and education and development (20%)
- 50% of the businesses were wholly family-owned
- the participants had not considered succession or did not wish to discuss it, 50% of the entrepreneurs believed it to be topical within 5–6 years

Over the course of the two-day DACUM seminar, the small business entrepreneurs in Vienna prepared a single-page job analysis chart, from which the general areas of competence as defined by them, shown in the following Table 23 (from Appendix 8), were included in analysis:

TABLE 23 Small business entrepreneurs' GACs in Vienna in DACUM analysis

Small business entrepreneur's GACs in the international DACUM seminars, in order of importance	
Vienna*, Austria, 25–26 April 2005      *)original according to Appendix 8	
The entrepreneur must be able to...	
1	Motivate yourself
2	Create business idea
3	Create business plan
4	Realize the targets
5	Convince others
6	Control, recheck, modify business
7	Live the dream
8	Organize the business
9	Manage customer relations

#### 4.2.3.3 Sixth DACUM seminar in Budapest

The sixth DACUM seminar was held in Budapest, Hungary on 28 April 2005. The one-day seminar was attended by eight persons, men and women in equal numbers. The group was put together by representatives of a local institute of secondary education, Europa 2000 Vocational School of Economics, Tourism and Informatics, from among their own stakeholders. A special feature of this group was the presence of two teachers who were also entrepreneurs. As teachers' salaries in Hungary are low, some teachers run a business on the side to earn a better living. The DACUM approach strongly counsels against selecting teachers as participants (cf. 4.2.1.3), yet since these teachers were also entrepreneurs, their participation was deemed acceptable.

In Budapest as well, a decision needed to be taken at the outset on the application of certain principles. Only a few of the younger women entrepreneurs were fluent in English, which is why an interpreter was used. The seminar was also condensed into a single day due to the financial circumstances of the participants. Since no attendance fee was paid, they could not afford to set aside two whole days for the seminar. The setting and overall arrangements – the seminar was held at a school – were in line with expectations.

The key features of the respondents were:

- 50% of the group were aged between 40 and 49, 16.67% were between 20 and 29 years of age, 16.67% between 30 and 39 years of age and 16.67% between 50 and 59 years of age
- 66.67% had a university degree, 16.67% a polytechnic degree and 16.67% had a vocational education
- 83.33% were managing directors and 66.67% had themselves started the business

- the most common business size measured by employees was 0–4 persons (50%) and the most common form of company was limited liability company (100%)
- revenue varied from €160,000 to €3,000,000
- the line of business of the companies varied from financial consultation (33.33% to tourism (33.33%) and education (33.33%)
- 25% of the businesses were wholly family-owned
- succession was not a topical issue for 40% of the businesses, would be a topical issue after ten years for 40% and within one year for 20%, 50% did not have a successor within the family

Over the course of the one-day DACUM seminar, the small business entrepreneurs in Budapest prepared a single-page job analysis chart, from which the general areas of competence as defined by them, shown in the following Table 24 (from Appendix 9), were included in analysis:

TABLE 24 Small business entrepreneurs' GACs in Budapest in DACUM analysis

Small business entrepreneur's GACs in the international DACUM seminars, in order of importance	
Budapest*, Hungary 28 April 2005 *)original according to Appendix 9	
The entrepreneur must be able to...	
1	Enjoy the work
2	Identify and represent the most important values
3	Manage the business
4	Reach objectives
5	Negotiate with clients
6	Motivate him/herself and others
7	Plan the strategy
8	Market the products
9	Be responsible for accounts

#### 4.2.3.4 Seventh DACUM seminar in Klaipeda

The seventh DACUM seminar was held in Klaipeda, Lithuania on 10–11 2005. It was attended by seven participants, all women. The group was put together by the EU Coordinator of Klaipedos Siuvimo ir Paslaugu Verslo Mokykla, a local school of secondary education. Three of the participants were members of the local woman entrepreneurs' association. Only a few had some English, which is why an interpreter was once again used. As in Budapest, decisions were taken in Klaipeda on the application of certain principles, such as abridging the seminar to a single day. The setting and general arrangements on school premises were in line with expectation. The Klaipeda seminar was marked by a freshness of entrepreneurship. In response to a question about the transfer of family businesses to a new generation came the amused reply, "Twenty years ago, we had no family

businesses.”

Key features of the respondents were:

- 66.67% of the group were aged between 40 and 49, 33.33% were between 50 and 59 years of age
- all (100%) had a university degree
- all (100%) were managing directors
- business size measured by employees was 0–4 persons for 33.33% of attendees, 5–9 persons for 33.33% of attendees and 10–49 persons for 33.33% of attendees
- the most common form of company was limited liability company
- revenue varied from €160,000 to €500,000
- 50% of the businesses were wholly family-owned
- all of the businesses (100%) either were not planning succession or did not wish to discuss it

Over the course of the two-day DACUM seminar, the small business entrepreneurs in Klaipeda prepared a single-page job analysis chart, from which the general areas of competence as defined by them, shown in the following Table 25 (from Appendix 10), were included in analysis:

TABLE 25 Small business entrepreneurs’ GACs in Klaipeda in DACUM analysis

Small business entrepreneur’s GACs in the international DACUM seminars, in order of importance	
Klaipeda*,Lithuania, 10- 11 May 2005 *)original according to App. 10	
The entrepreneur must be able to	
1	Plan activities
2	Arrange work
3	Search business environments
4	Improve the management skills
5	Make modern products
6	Organize team work
7	Make and manage the flow of money
8	Find the best markets and customers
9	Have courage to start an honest business

#### 4.2.3.5 Summary of the foreign seminar participants’ views of the cognitive, affective and psychomotor core skills of the small business entrepreneur

The core skills from the work analysis charts of all four DACUM seminar groups abroad are presented in Table 5 and also classified as cognitive, affective or psychomotor as well as cognitive-affective, cognitive-psychomotor, affective-psychomotor or cognitive-affective-psychomotor skills according to Bloom’s taxonomy. The classification here as well was performed by the researcher, who served as facilitator to the groups. The classification was reviewed by the re-

searcher and the experienced sociologist and pedagogue who attended each DACUM seminar and served as recorder. The classification was based on subjective interpretation of both the work analysis charts of the four seminars and observations made during the seminars. Differences of opinion were discussed until consensus was reached.

After classification, the various sub-skills were added together and the numbers of each sub-skill listed to facilitate comparisons.

TABLE 26 Classification of GACs in the four DACUM groups abroad

Classified core skills of the small business and small family business entrepreneur in DACUM analyses abroad							
Ankara, Turkey, 30 March 2005 (org. to App. 7)		Vienna, Austria, 25–26 April 2005 (org. to App. 8)		Budapest, Hungary, 28 April 2005 (org. to App. 9)		Klaipeda, Lithuania, 10-11 May 2005 (org. to App. 10)	
The entrepreneur must be able to...							
Be a good craftsman and tradesman	P	Motivate yourself	A	Enjoy the work	A	Plan activities	C
Be reliable	A	Create business idea	C	Identify and represent the most important values	A	Arrange work	CAP
Plan work	C	Create business plan	C	Manage the business	CAP	Search business environments	CP
Provide sustainability	A	Realize the targets	C	Reach objectives	CAP	Improve the management skills	CAP
Manage human resources	CAP	Convince others	AP	Negotiate with clients	CAP	Make modern products	CP
Follow technological development	C	Control, recheck, modify business	AP	Motivate him/herself and others	A	Organize team work	CP
Market products/services	CAP	Live the dream	A	Plan the strategy	C	Make and manage the flow of money	C
Generate income	CP	Organize the business	CP	Market the products	CAP	Find the best markets and customers	CAP
Have more customers	CA	Manage customer relations	CAP	Be responsible for accounts	P	Have courage to start an honest business	A
Understand owner's way of running the business	A						

C = 2/10 → 18/90	C = 3/9 → 30/90	C = 1/9 → 10/90	C = 2/9 → 20/90
A = 3/10 → 27/90	A = 2/9 → 20/90	A = 3/9 → 30/90	A = 1/9 → 10/90
P = 1/10 → 9/90		P = 1/9 → 10/90	
CA = 1/10 → 9/90	CP = 1/9 → 10/90		CP = 3/9 → 30/90
CP = 1/10 → 9/90	AP = 2/9 → 20/90		
CAP = 2/10 → 18/90	CAP = 1/9 → 10/90	CAP = 4/9 → 40/90	CAP = 3/9 → 30/90



<b>C</b>	= cognitive core skills,	foreigners total	<b>78/90</b>
<b>CA</b>	= cognitive-affective core skills	"	9/90
<b>CP</b>	= cognitive-psychomotor core skills	"	49/90
<b>A</b>	= affective core skills	"	<b>87/90</b>
<b>P</b>	= psychomotor core skills	"	<b>19/90</b>
<b>AP</b>	= affective-psychomotor core skills	"	20/90
<b>CAP</b>	= cognitive-affective-psychomotor core skills	"	<b>98/90</b>

#### 4.2.3.6 Utterances in the DACUM work analysis charts abroad

At the outset of research data analysis, the utterances describing personal expertise recorded during the seminars were separated into a distinct group. These utterances are analyzed separately in the following Table 6. The classification into the seven Bloomian categories was again performed by the researcher, who served as facilitator to the groups, and reviewed together with the recorder who attended each DACUM seminar (see 4.2.1.3). The classification here as well was based on subjective interpretation, and differences of opinion between researcher and recorder were discussed until consensus was reached.

TABLE 27 Utterances in the work analysis charts of DACUM seminars abroad

<b>Utterances*) describing the expertise of foreign small business entrepreneurs</b>						
*)original according to Appendices from 7 to 10						
Cognitive	Psycho-motor	Affective	Cognitive-psycho-motor	Cognitive-affective	Psychomotor-affective	Cognitive-affective-psycho-motor
The more instruction, the better rival.		The customer is always right.		Teaching employees means losing them.	Not just promises but follow-through.	Value, honesty, name of the firm, friendliness, quality of services, qualifications of personnel.
		The cheapest salesman is a satisfied customer.			Before, you did what you were told to, now you have to think for yourself what needs to be done.	Money comes from the customers.
		Experience brings patience.			Men make the plans, women implement them.	Taxi driver: "Keep the car in perfect condition, driver well dressed, safedriving, know the streets, good dialogue with customers, have patient".
		Do not give up.				

The various analyses of the job analysis charts abroad did not attach importance to psychomotor skills and the same applies to the utterances as well, differing somewhat from the results of the analysis of Finnish small business entrepreneurs. Then again, cognitive-affective-psychomotor skills can be found in the utterances of foreign small business entrepreneurs, unlike those of Finns. This expertise of the foreign small business entrepreneur in respect of utterances corresponds to the results of the analysis of sub-skills. However, affective skills are most clearly in evidence, corresponding to the result of the Finnish small business entrepreneurs' analysis.

The various categories in the utterances abroad also contain tacit knowledge such as "the cheapest salesman is a satisfied customer," "men make the plans, women implement them," or "experience brings patience". With regard to these, it has been stated that we all employ a mental model which we have developed over the course of our lives, through trial and error, and which we have found to be effective. When asked, we are seldom able to recount it for others in explicit terms, but for some reason it functions within us intuitively, as tacit and silent knowledge and emotion.

The cultural context of idioms and metaphors appearing in the utterances in various countries should be taken into account. Utterances describing occupational expertise in the job analysis charts are all purely function-oriented, however, with no comparison to e.g. the stereotypes of one's own culture. The group is small and no figurativeness can be observed. This is in all likelihood due to the DACUM model in which the consensus decision is formulated each time through choice of action verb. The utterances extracted nonetheless describe e.g. attitudes in a wider context than allowed by a single verb and have therefore been included in the chart, in a deviation from the DACUM model.

## **5 EMPIRICAL FINDINGS: SECOND ROUND OF ANALYSIS**

### **5.1 Results of Finnish DACUM seminars: Helsinki, Oulu and Kuopio**

#### **5.1.1 Core skills in Finland**

The classification of core skills (Table 20) gives rise to the conclusion that the Finnish small business entrepreneurs participating in the three DACUM seminars held in Helsinki, Oulu and Kuopio underscored clear cognitive and affective core skills as the most important aspects of their work. Equal importance was attached to cognitive-affective-psychomotor (CAP) core skills, which represent the entrepreneurial spirit and soul of the small business entrepreneurs.

Affective core skills, i.e. to become an entrepreneur, to manage oneself, to communicate, to have an entrepreneurial personality, to be motivated, to have social skills and to know one's own limits were perceived as equally important as cognitive core skills in work situations. Affective core skills were highlighted by young and more educated entrepreneurs (Helsinki and Kuopio) whereas older and less educated entrepreneurs (Oulu) underscored cognitive-affective, affective-psychomotor and cognitive-affective-psychomotor (CAP) core skills instead of the purely affective ones. The missing skills become visible in working life when they have not been part of formal entrepreneurship education. (Allahwerdi & Westerholm 2005a, 21).

The first level in the taxonomy of the cognitive domain is recall (see 2.2.1) which refers to objectives stressing recalled knowledge. Progression down the list of the taxonomy brings one to gradually more demanding cognitive objectives. The various skills and competences can e.g. according to the evaluation criteria easily be placed in the cognitive domain. (Westerholm 2006, 43-45). A number of criteria also occupy places in the psychomotor domain whereas there is little use of the affective domain (see 2.2.3).

The core skills are analyzed yet again to investigate the core skill sets of the small business entrepreneur. The tool used now is the three-circle model,

the visual premise of which was taken from Tagiuri & Davis (1996, 200). This also allows the elimination of overlapping skills so that we may boil down that which the small business entrepreneur must be able to do. The following Figure 13 is an adaptation of the three-circle model to analyze the core skill sets of Finnish small business entrepreneurs:

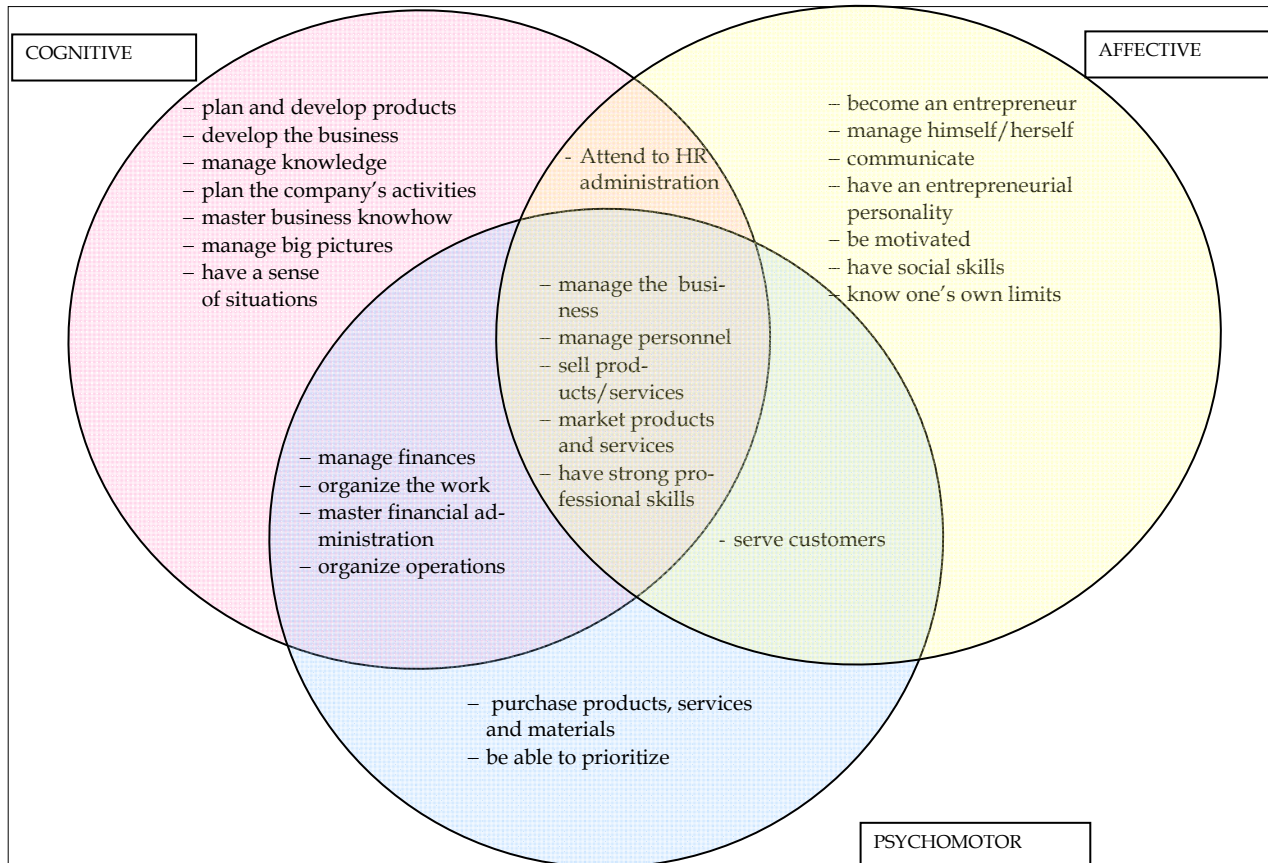


FIGURE 13 Core skill sets of Finnish small business entrepreneurs analyzed with the three-circle model.

Analysis of the three-circle model gives rise to the finding that the core of Finnish small business entrepreneurs' skill sets lies in management, sales, marketing and strong self-esteem. Financial management and technical skills are not central in the skill sets of the small business entrepreneur but instead represent important support functions, as do other areas of traditional business expertise. (cf. core in Table 13: Gibb's "behaviours", Koiranen's "life artist and dedicator", Remes' "business entrepreneur", Ylinen's "skills" and Kyrö's "visionary").

#### Sub-skills contained in the Finnish core skills

As posited in the research question, the expertise of the small business entrepreneur is also examined in respect of the sub-skills contained in the core skills. Table 30 in Appendix 11 describes the sub-skills contained in the job analysis charts of all three Finnish DACUM seminars classified into seven categories according to Bloom's taxonomy. A single work analysis chart usually contains be-

tween 100 and 200 sub-skills.

These sub-skills are also subjected to analysis with the three-circle model to confirm the research findings about the core of the small business entrepreneurs. This also allows the elimination of overlaps to boil down that which the entrepreneur must be able to do also in respect of sub-skills. Figure 19 in Appendix 13 shows a three-circle adaptation of the sub-skills contained in the core skills of Finnish small business entrepreneurs.

Analysis of the sub-skills shows that the cognitive sector is clearly the one most highlighted, closely followed by the cognitive-affective-psychomotor sector, which represents the core of the small business entrepreneur's expertise. The sectors of affective, psychomotor-affective, cognitive-affective and cognitive-psychomotor are all nearly equally strong. Psychomotor skills are only included in respect of six sub-skills. The findings relating to the sub-skills bolster the finding obtained from the analysis of core skills, wherein core skills in the affective sector were deemed important in work situations alongside cognitive core skills. Little importance attaches to skills of purely psychomotor nature in the analysis of sub-skills as well.

## **5.2 Description of results of DACUM seminars abroad: Ankara, Vienna, Budapest and Klaipeda:**

### **5.2.1 Core skills abroad**

The classification of core skills gives rise to the conclusion that the foreign small business entrepreneurs participating in the four DACUM seminars held in Ankara, Vienna, Budapest and Klaipeda underscored affective and cognitive skills as extremely important core skills in their work. However, by far the most importance was attached to cognitive-affective-psychomotor skills, which represent the very core of small business entrepreneurial expertise. In addition, it was found that affective core skills, i.e. "to be reliable, to provide sustainability, to understand owner's way of running the business, to motivate oneself, to live the dream, to enjoy the work, to identify and represent the most important values, to motivate him/herself and others, to have courage to start an honest business" (as stated in original work analysis charts) were deemed equally important in work situations as the cognitive core skills.

The small business entrepreneurs in Budapest and Klaipeda rated the strongest in cognitive-affective-psychomotor skills, thus emphasizing the core of entrepreneurial capacity in valuing their own expertise. In part, this testifies to strength of purpose specifically as an independent small business entrepreneur. Commonalities can be explained by historical factors such as the predominance of first-generation entrepreneurship. The emphasis on the cognitive sector in Austria in contrast is testament not only to the underlying family business tradition in Austria (Allahwerdi-Westerholm 2005b, 2) but also to the configuration of a DACUM focus group of small business entrepreneurs. One third of this focus group had not been entrepreneurs for long and their business

was consulting one.

Here as well, the core skills are analyzed yet again using the three-circle model to investigate the core skill sets of the small business entrepreneur abroad. This also allows the elimination of overlapping skills so that we may boil down that which the small business entrepreneur must be able to do. The following Figure 14 is an adaptation of the three-circle model to analyze the core skill sets of small business entrepreneurs abroad:

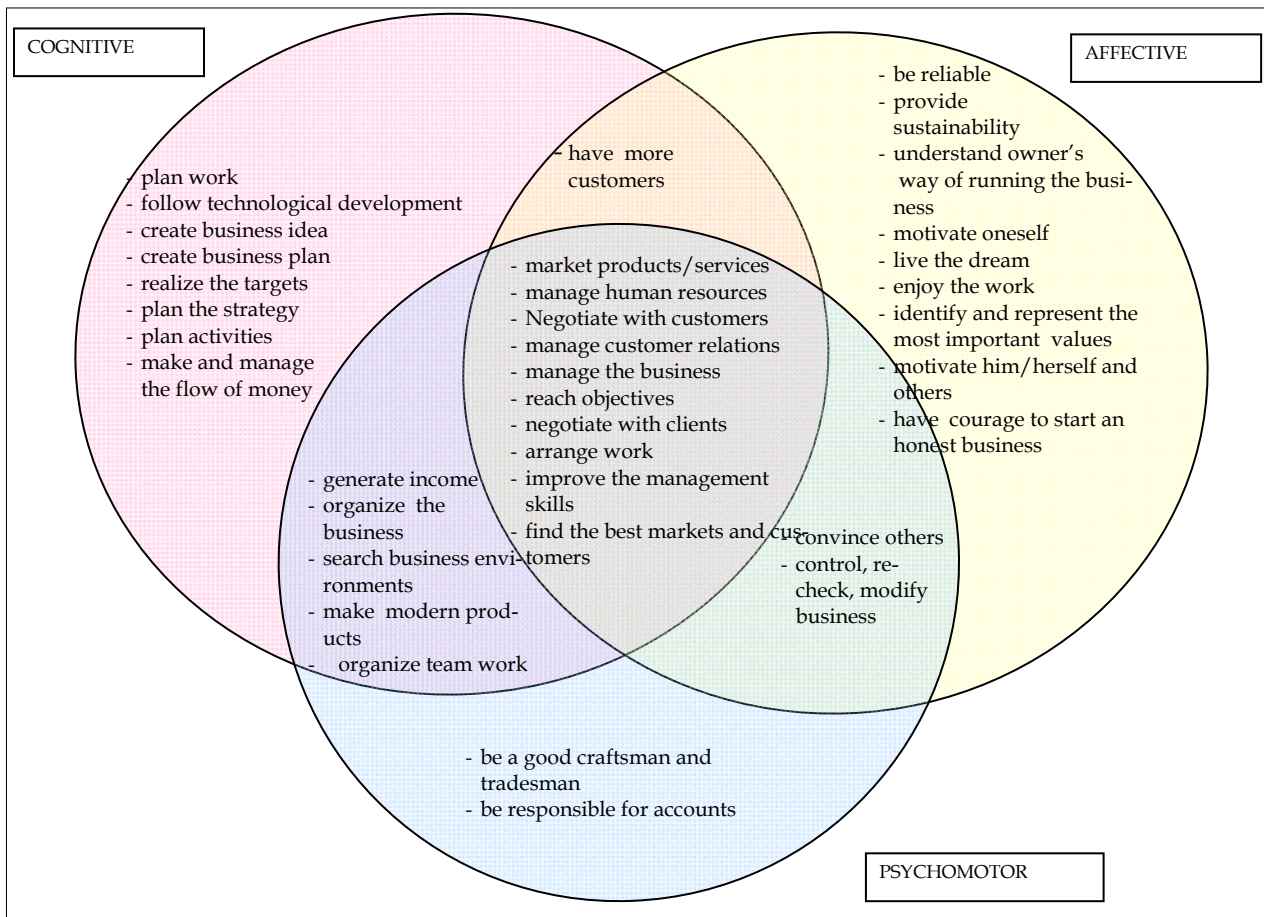


FIGURE 14 Three-circle analysis of core skill sets in international DACUM seminars

Analysis of the three-circle model gives rise to the finding that the core of foreign small business entrepreneurs' skill sets lies in management, marketing, negotiation and goal achievement. Financial management and technical skills are not central in the skill sets of the small business entrepreneur but instead represent important support functions, as do other areas of traditional business expertise not represent the core skill sets of the small business entrepreneur but strong support functions instead. In this respect, the findings not only validate the views of Finnish small business entrepreneurs as to the core of their core skill sets; they in fact focus on an even smaller number of core skills.

### 5.2.2 Sub-skills contained in the core skills abroad

As posited in the research question, the expertise of the small business entre-

preneur is also examined in respect of the sub-skills contained in the core skills. Table 31 in Appendix 12 describes the sub-skills contained in the job analysis charts of all four international DACUM seminars classified into seven categories according to Bloom's taxonomy. A single work analysis chart usually contains between 100 and 200 sub-skills.

These sub-skills are also subjected to analysis with the three-circle model to confirm the research findings about the core of the small business entrepreneurs. This also allows the elimination of overlaps to boil down that which the entrepreneur must be able to do also in respect of sub-skills.

Analysis of the sub-skills shows that the cognitive sector is clearly the one most highlighted, thus validating the findings of the seminars in Finland. However, the small business entrepreneurs also rated highly the cognitive-affective-psychomotor sector, which represents the core of the small business entrepreneur's expertise. The sectors of affective and cognitive-psychomotor skills are equally strong, closely followed by cognitive-affective and psychomotor-affective skills. Psychomotor skills are only included in respect of four sub-skills.

The findings relating to the sub-skills largely bolster the corresponding finding in Finland as well as that obtained from the analysis of core skills, wherein affective skills are deemed important in work situations alongside cognitive core skills. Little importance attaches to skills of purely psychomotor nature in the analysis of sub-skills as well.

### **5.3 Comparison of cognitive-affective-psychomotor skills among Finnish and foreign small business entrepreneurs and Roodt's summary of entrepreneurial skills**

#### **5.3.1 Execution of comparison**

In order to correlate the sub-skills of Finnish and foreign small business entrepreneurs according to Bloom's taxonomy with earlier doctrine, the cognitive-affective-psychomotor (CAP) skills appearing on the DACUM job analysis charts are compared to the summary put forward by Roodt, selected from earlier research into entrepreneurial skills, and the comparison is presented in the following Tables 27 and 28. The CAP sub-skills (or core) of the small business entrepreneurs were placed within the summary put forward by Roodt by the researcher acting as facilitator and again, the recorder taking part in each DACUM seminar also participated in reviewing the placement. Choices in this instance as well were a matter of subjective interpretation. The differing views of the researcher and the experienced sociologist and pedagogue serving as recorder were again discussed until a consensus was reached.

TABLE 28 Finnish small business entrepreneurs' CAP sub-skills placed in Roodt's summary of general entrepreneurial skills

<b>Finnish small business entrepreneurs CAP sub-skills placed in Roodt's model</b>						
Technical skills	Communication skills	Managerial skills	Innovation skills	Information-seeking skills	Financial skills	Personal skills
	Attend to the client professionally	Attend to dismissals	Capitalize on celebrities	Anticipate the future	Give discounts	Take care of personal fitness
	Ask the client for advice	Give constructive criticism	Innovate a product	Seek signals	Live on the profit and not on the trade	Represent the enterprise
	Teach tacit knowledge	Resolve conflicts	Try products	Capitalize on existing products	Watch out for financial manipulation	Call into question one's own expertise
	"Rear" the work community	Identify the strengths of the enterprise	See "the lay of the land" through the eyes of another	Take advantage of opportunities		Maintain professional skills
	What goes around comes around	Put professional skills into practice	Find the "trump cards"	Ask others as well for help		Manage life situations
	Build window displays	Attend to product maintenance	Be ahead of the times	Identify the individual needs of clients		Attend to wellbeing
	Act in a culturally diverse manner	Refer to treatment if necessary	Avoid misleading advertising			Understand the importance of "rest, love, kites and exercise"
	Sell solutions to problems	Reward employees	Draw product proposals			
	Report to employees on the status of the business	Keep the reins in one's own hands	Design a product			
	Organize customer events	Sell	Market dreams			
	Use word of mouth	Face and manage conflict				
	Give and take feedback	Manage change				
	Give tasters	Delegate work and duties				



Finnish small business entrepreneurs CAP sub-skills placed in Roodt's model						
	Provide individual service	Encourage people (customers, employees)				
	Use street advertising	Identify star performers in the business				
	Provide samples	Delegate "inabilities" to experts				
	Provide goods and services at the right time to the right customers					
	Serve all customer equally					

TABLE 29 Foreign small business entrepreneurs CAP sub-skills placed in Roodt's summary of general entrepreneurial skills

Foreign small business entrepreneurs CAP sub-skills placed in Roodt's model						
Technical skills	Communication skills	Managerial skills	Innovative skills	Information-seeking skills	Financial skills	Personal skills
	Maintain a good spirit in the enterprise	Delegate tasks, not do everything oneself	Develop and implement a quality management system	Have knowledge of foreign cultures	Have a thorough knowledge of finance	Define the enterprise, identify it and live it
	Introduce Lithuania abroad.	Create an efficient and functioning organization.	Predict and project whether customers absolutely need my services	Monitor global trends	Subject products/services to approval for sale	Learn to be creative
	Advertise Lithuania as it is - in depth.	Guarantee the support of the family.	Create new products to local markets and Lithuanians	Monitor and anticipate customer needs		Value honesty, company name, friendliness, standard of service, competence of staff
	Organize structures.	Execute the customer service process	Create a virtual reality	Require unique products		Locate and encounter the customer's special needs
	Reinforce customer loyalty to the enterprise.	Ensure that employees are pulling together	Have the opportunity/vision of starting one's own business	Predict the future		Commit to the group
	Communicate well	Exceed and manage customer expectations	Offer travel to entirely new destinations	Be familiar with the industry		Take advantage of experience
	Use connections more	Allocate professional resources properly	Face the needs of the market and changes in the	Choose products with expertise and confidence		Know what one is doing

Foreign small business entrepreneurs CAP sub-skills placed in Roodt's model						
Technical skills	Communication skills	Managerial skills	Innovative skills	Information-seeking skills	Financial skills	Personal skills
			market			
	Win a good reputation and image.	Keep the customers satisfied	Produce innovative new products	Capitalize on information and expertise about minorities		Have good business contacts
	Create a new enterprise using personal contacts	Weigh options longer		Locate the general meeting places of majorities and minorities		Act efficiently
		Favour the enterprise's own staff in consulting		Comply with the law, stay up to date and find the loop-holes		
		Execute a plan and make the necessary adjustments to it				
		Identify the reasons why the plan is not working				
		Give employees responsibility and monitor what they are doing				
		Be a good organizer				
		Bring together the knowledge and skills of 15 engineers				
		Employ different tactics depending on target group				
		Recruit the right people				

The skills central to the entrepreneur according to Roodt are technical, communication, managerial, innovative, information-seeking, financial and personal skills. A comparison of these to the CAP sub-skills expressed by small business entrepreneurs in this study shows managerial skills to be the strongest in both, with communication skills, innovative skills, information-seeking skills and personal skills being of approximately equal strength.

These skills may be compared to interpretations of the concept of entrepreneur, such as that of Knight (1971, 18) stating that even if the entrepreneur has the wisdom and the confidence to exploit existing business gaps, uncertainty must nonetheless be taken into account, leaving intuition and judgment as the sole guides. Knight dismisses the possibility of entrepreneurs seeking to hedge against uncertainty by resorting to routine innovation, which today are referred to as 'best practices', as these ideas diffuse too rapidly for pure profit to form.

**The most noteworthy element of the comparison is the similarity of both groups' results in respect of technical skills and financial skills, which unlike Roodt, neither the Finnish nor the foreign small business entrepreneurs consider a key element of entrepreneurial expertise.**

### 5.3.2 The soul of the entrepreneur

The core skill sets of all the small business entrepreneurs, analyzed using the three-circle model and the comparison of the CAP sub-skills to Roodt's summary of entrepreneurial skills validating this finding allow a response to the research question of this study. In light of this study, the core skill sets of the modern pan-European small business entrepreneur – the soul of the small business entrepreneur – can be described as follows:

The entrepreneur perceives both cognitive and affective core skills as extremely important core expertise, which is perceived as equally important in work situations, yet cognitive-affective-psychomotor skills are just as important. This even distribution of skills in each of the categories in Bloom's taxonomy would indicate the existence of a certain **entrepreneurial soul**. A slight difference was observed between younger and more educated entrepreneurs on the one hand and on the other, older and less educated entrepreneurs and partly also entrepreneurs in the consulting business. The former attached more importance to affective skills than the latter.

No pure psychomotor skills can be found at the core of entrepreneurial expertise. It is my observation that the small business entrepreneur is not aware of the psychomotor nature of the transfer of cognitive knowledge. Cognitive knowledge thus transfers through action when necessary, yet the entrepreneur does not perceive knowledge as action or takes it more or less for granted. The core or soul of small business entrepreneurs' skill sets is devoted above all to management and leadership, while sales and marketing also play a role, and the strong self-esteem that realizes the entrepreneurial dream arises from the soul of the entrepreneur. Small business entrepreneurs see financial skills and technical skills as necessary and important, but these do not constitute core elements in their skill sets and may thus be acquired from an outside source. Tacit knowledge is most clearly transferred through experiences that may be classified as affective, as highlighted by the utterances of small business entrepreneurs extracted from the data. Tacit knowledge often also consists of psychomotor skills, which are nonetheless perceived by small business entrepreneurs as cognitive skills as stated above.

The soul of the small business entrepreneur described in Figure 5 as the finding of this study is the answer to the research question: What do entrepreneurs feel they must be able to do...? The conclusion may be drawn on the expertise and various skills of the small business entrepreneur that a separate analysis applies to **what the entrepreneur must be able to do and what is needed in business**. The small business entrepreneur must comprehend the concept of the entire business, the peculiarities of the relevant sector, i.e. have cognitive knowledge of business activities. Yet the small business entrepreneur need not be able to do everything. The success of the entrepreneur in competition, in business, is conditional upon the entrepreneur having the soul of an entrepreneur, one whose skill sets very clearly focus on the affective alongside cognitive knowledge. CAP skills form the foundation. Part of the expertise consists of tacit knowledge, the acknowledgement and acceptance of which as part

of one's core expertise would introduce a systematic approach to the recording of such knowledge and enable its transfer to co-workers or successors.

The significance of the entrepreneurial soul discovered in this study is further highlighted by the important observation that the entrepreneurial soul manifests in quite an analogous form not only in Finland and elsewhere in Europe but also in the culturally divergent Turkey. The entrepreneurial soul of the small business entrepreneur thus seems to share the same characteristics despite certain differences in political or religious beliefs, ethnic background, or geographical location. Figure 15 below describes the soul of the small business entrepreneur, i.e. the core skill sets, and the potential benefit of the exploration to small business entrepreneurs.

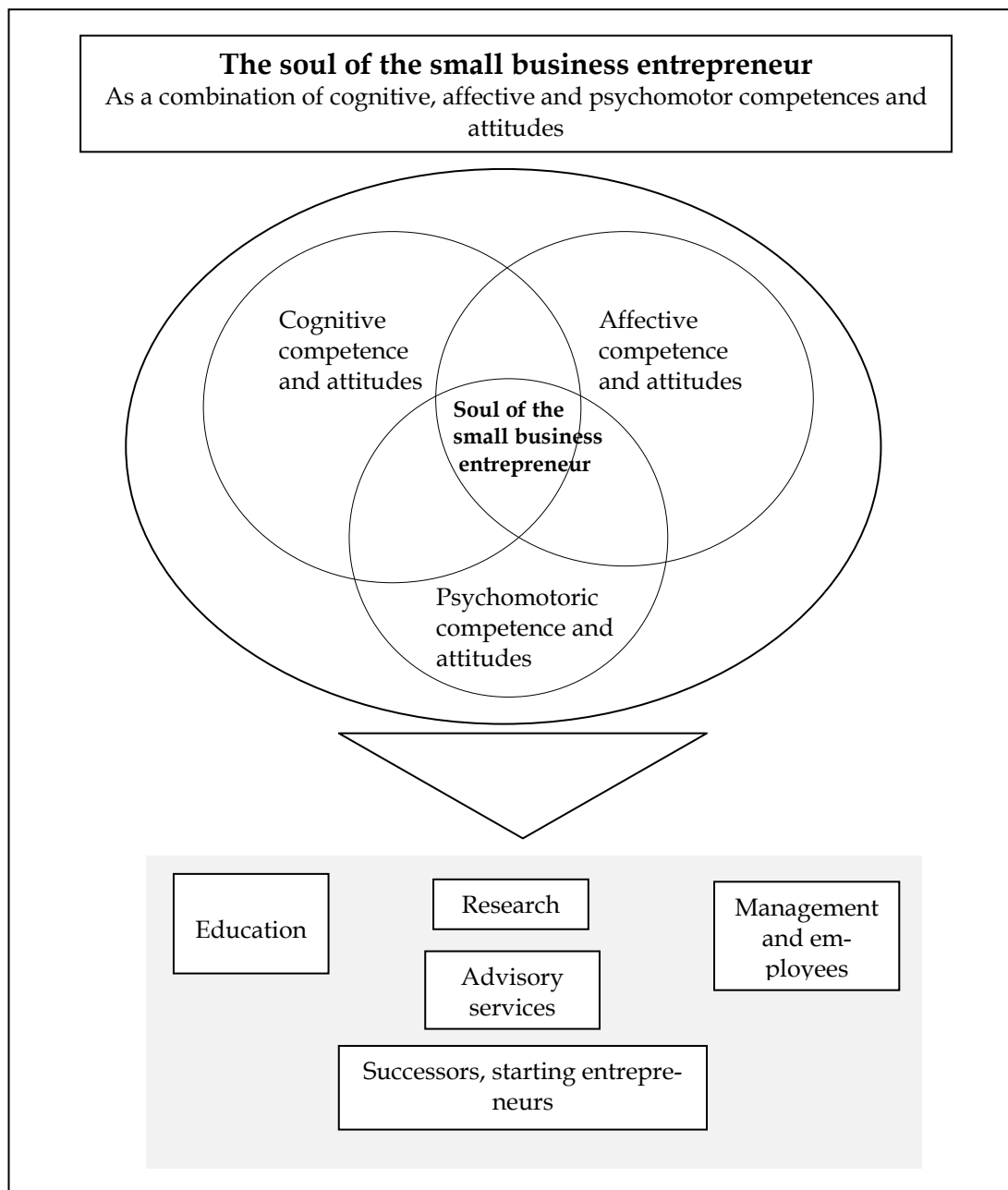


FIGURE 15 The soul, i.e. core skill sets, of the small business entrepreneur, and the contribution of this research for small business entrepreneurs

## 6 DISCUSSION ON THE RESEARCH FINDINGS

The study sought to describe what small business entrepreneurs themselves feel they must be able to do to perform their work successfully. The study produced knowledge about the skill sets of the small business entrepreneur as well as contributions to entrepreneurship research and entrepreneurship education especially. The study also provided information to groups of stakeholders close to entrepreneurship. The following Chapter discusses the research findings relative to earlier doctrine and the contribution of the findings to entrepreneurship research and education, management and advisory services for entrepreneurs both at present and in the future.

### 6.1 Findings relative to earlier doctrine

This study concerned the skill sets of small business entrepreneurs, i.e. their competence and attitudes as expressed by them personally, and the aim was to define the occupation of small business entrepreneur as knowledge, skills and attitudes. The method of analysis represented a Bloomian perspective into the cognitive, affective and psychomotor qualities of the skills. The skill sets of the small business entrepreneur may also find expression in the form of tacit knowledge, the transfer of which to a successor is conditional upon its more detailed definition. Interpretation of the concept of competence in this study is a matter of nuance and depends on the context of the interpreter.

The competences required in entrepreneurship and of the entrepreneur are linked to time, environment and life situation. From the viewpoint of the concept of competence, cognitive skills i.e. knowledge in its various forms along with mental skills allow individual skill sets and the demands of a given task or situation to meet. In this instance, competence is relative and contextual, in other words personal performance in a given context comprising the enterprise complete with its norms, values, tools, aims and intentions (Ellström 1992; Ruohotie & Honka 2003, 54; Kankaanpää 1997, 14; Munch & Jakobsen 2005). However, in addition to relativity and context, the skills, abilities and knowledge at

the second step of Voorhees' competence model highlight development as a result of learning experiences gained in education, work and society, which in turn supports successful performance as an entrepreneur.

Ellström describes competence as the potential capacity of an individual or collective to successfully process certain situations or perform a certain task or job according to formal or informal criteria established by one or more parties (Ruohotie ja Honka 2003). This capacity is defined by the observable motor, cognitive and affective factors, personality traits and social skills. Ellström's description contains the same elements as the Bloomian view, however distinguishing also personality traits and social skills. The interpretation by verbs adopted in the Bloomian analysis provides a similar opportunity to bring up personality and social skills, yet there these appear as attitudes. It can thus be stated that in addition to formal and informal knowledge and skills, the competence of the entrepreneur also consists of personal values, motivation and conscious behaviour, i.e. affective personality traits. (Ellström 1992; Singer 2005; Sveiby 2001).

The similarity of the interpretations gives rise to the conclusion that the Bloomian perspective remains topical and its usability as a method of scientific analysis is justified. The criticism given by Antwell (1977) to the different interpretations in different countries of Ellstrom's concept of competence, giving rise to confusion, in my view does not diminish the value of the Bloomian perspective when used for scientific analysis.

In my study, I resolved to replace the term competence and core competence with the terms skill (sets) or core skills. As my earlier research already found the term competence to be difficult to interpret, I have used it as a synonym for the concepts of competence and attitudes. Kankaanpää (1997, 14) interprets the introduction of the term competence to have to do with a changed emphasis in education in a situation of a shift from examining inputs to examining outcomes. This jibes very well with the ideology of the DACUM model (Coffin 2002; Glendenning 1995) The change in perspective may seem minor, but it is highly significant. Whereas the perspective of qualification underscores the importance of school and education in transmitting professional skills and knowledge, the perspective of skill sets focuses on learning and the student's responsibility for learning. Thus even the student can be approached as an internal entrepreneur.

Although responsibility for personal learning is underscored, students embarking on vocational education are only at the early stages of learning self-awareness, being able to identify their personal strength and weaknesses, and do not yet see themselves working in a business of their own (Allahwerdi & Westerholm 2005a, 22). In the concept of competence put forward by Ruohotie (2002b) (Table 1), they are still at the level of duties. Instead of becoming entrepreneurs, they are often interested in a career working for another and the possibility of internal entrepreneurship offered by such a career.

When correlating the study to earlier research with regard to the concept of entrepreneurship, the cognitive core skills on the work analysis charts of the small business entrepreneurs generated in the DACUM seminars best describe

traditional external entrepreneurship and the various sectors of expertise therein. (See Timmons & Spinelli, 2007; Kyrö 2005; Remes 2005; van der Veen & Wakkee 2004, 120; Koironen 2000, 2; Kirzner 1979, 48). The perspective is one of interpretation by owner/operator and represents his experience and needs in a local small business. The affective core skills best describe independent entrepreneurship and its various facets. (See Lehtonen & Vertanen 2006, 172; Kyrö 1998 and 2005; Remes 2005). With regard to the concept of entrepreneur, the cognitive skills required in the entrepreneur's general work skills should be complemented with self-regulatory skills promoting professional development, i.e. affective core skills (See Ruohotie 2002b; Voorhees 2001), as the research finding arrived at indicates. Psychomotor skills are often perceived by the entrepreneur as cognitive skills, as the study indicates these are taken more or less for granted.

Entrepreneurial skill sets were typified in the form of various researchers' interpretations and the one selected to reflect upon the findings was the summary put forward by Roodt (2005). It should be noted, however, that Roodt chooses to examine the entrepreneurial skills only in terms of analysis of content and excludes the pedagogical. Her summary underscores the skills of entrepreneurs in a comprehensive fashion. If we were to analyze e.g. managerial skills as managing business activities, this alone would in terms of content include innovation, dissemination of information, communication, motivation, coordination and resource allocation. In this context, managerial skills refer to both management and leadership.

In comparing the results of the empirical study to the skills in Roodt's summary, I noticed the most significant differences to arise in the valuation of technical and financial skills. Roodt deemed these important especially in light of today's global challenges. According to my findings, however, both Finnish and foreign small business entrepreneurs considered these to be skills that they need not possess in the core of their expertise, yet these were perceived as vital in the form of support functions. Meanwhile managerial skills, communication skills, innovation skills and information-seeking skills were among those deemed important by the entrepreneurs. Importance was also attached to persistence and proactiveness relating to personality. Kupferberg (2003), who has examined future competence needs, states that creativity will surpass competence in importance. For this reason as well, entrepreneurship education is faced with major challenges, and competence will not suffice as a goal. The type of entrepreneurship education needed will have to be examined in earnest in the future (see 2.1.)

If we are to make use of Roodt's summary, we must remember the intense polarization of the skills required in the world of work. On the one hand, there is demand for specialized professionals, yet the fundamental demand in the world of work is for extensive general education associated with a strong and independent personality capable of taking initiative and arriving at analytically justified decisions (Drexel 2003). Toikka (1982) also touched upon polarization but addressed it in the context of qualification and not competences, stating that qualifications were not permanent. Requirements change in the various profes-

sions and occupations, gaining different emphasis in terms of quality. In qualification theses, qualification is examined during three stages of development: craft, mechanized and automated. De-qualification refers to an initial lowering of requirements, yet new requirements arise with mechanization and automation. The polarization thesis has to do with polarization. Like Drexel, Toikka also finds that in certain occupations, skill requirements fall and lead to non-skilled work. During re-qualification, the requirements again rise. (Toikka 1982, 27).

Instead of polarization, Gibb (2005, 46) perceived entrepreneurship as value added. Entrepreneurship as defined by Gibb as behaviours, attributes and skills further validates my research finding that entrepreneurs as individuals or groups can effect change and innovation, tolerate uncertainty and even enjoy the complexity of life. However, Gibb stressed entrepreneurial skills to start with the assumption that entrepreneurship is not seen as being synonymous with being 'business-like' in the formal administrative sense. Nor should it be taken to be synonymous with core skills or transferable personal skills. It is more than both. This outcome, too, converges with the Bloomian analysis, especially as it gives visibility to the sub-skills.

Tacit knowledge could also be mapped in respect of the sub-skills and utterances of the small business entrepreneurs brought up by the DACUM analysis. Psychomotor qualities were a connecting factor in the sub-skills while affective qualities connected the utterances. In defining the components of competence, Drexel (see 2.1.) valued experience higher than knowledge or proficiency because the operative capacity of labour is perceived as important. However, the small business entrepreneurs found it difficult to identify psychomotor qualities, which partly explains why tacit knowledge is difficult to render explicit. This in turn hampers its transfer to a successor. The small business entrepreneur is not conscious of the psychomotor nature of the transfer of cognitive knowledge. Cognitive knowledge transfer as action when necessary, yet the entrepreneur does not always perceive action as knowledge or takes it more or less for granted. For example, an entrepreneur in the leather business had the ability to "smell" the appropriate quality of leather for various goods. The tacit knowledge of a reindeer meat seller told him that the reindeer needed to come from Western Lapland if customers were to pay the asking price. When the small business entrepreneur needs a "lifeline", he phones a friend. Woman entrepreneurs who shared a mutual trust had networked and were prepared to share their expertise and tacit knowledge with their colleagues and also to come to their aid when necessary. Skills like these cannot be taught in schools; they are learned on the job. The trend in vocational education as well towards more on-the-job learning can thus be deemed appropriate.

An interesting comparison for my studies can be found in the findings of Ylinen, which also have to do with the skills of the entrepreneur. His empirical data was based on theme interviews. My findings differ from those arrived at by Ylinen (2004) to a certain extent while in other respects, my findings complement those of Ylinen. According to Ylinen, attitudes are clearly emphasized in the skills required today, as my study also indicates. The will and the attitude



are there but the knowledge and the abilities are lacking. Ylinen says modern society to demand that the entrepreneur master a vast volume of facts, regulations, legislation and other know-how. According to my study, not all expertise need reside in-house; the key is to manage the business of the enterprise in a manner that permits the requisite information to be available to the enterprise either as a support function or in the form of outsourcing.

Skills which Ylinen states entrepreneurs would wish to learn include finances, information technology, taxation, general knowledge and professional skills. Entrepreneurs feel the only one of these they personally must master is business at the general level. Further according to Ylinen, the skills needing the most learning were planning, salesmanship, organization and delegation. This is in direct correlation with the views of entrepreneurs that these make up the core skills of the entrepreneur. In terms of attitudes, there remained room for future improvement in self-control, lifestyle, hobbies and diligence. Ylinen expresses a greater desire than other researchers for norm awareness and administrative expertise in the expertise of the entrepreneur.

My study clearly highlighted the entrepreneur who is realizing his or her dream and who has good self-esteem. Neither specification of attitudes nor norm awareness or administrative expertise was shown in the skills expressed by the entrepreneurs themselves. According to Ylinen, the developmental path of the entrepreneur required the entrepreneur to have initiative, take responsibility and make independent decisions. Self-confidence was a requirement to successful business activity. In this respect, the two studies are congruent.

## **6.2 Benefits of the research**

### **6.2.1 Contribution to entrepreneurship research**

The research examined small business entrepreneurs as to the expertise required of them. Comparable studies examining with equal scope the personal views of entrepreneurs on such expertise have been difficult to come by. The DACUM model utilized as the data collection method allowed the views of small business entrepreneurs to be systematically recorded. Quantitative data collection methods have most commonly been used to describe the processes of entrepreneurship. The qualitative and pragmatic DACUM data collection method utilized in this study has proven a working approach, which should in future facilitate other researchers as well in locating new ways of using qualitative methods and their various analysis methods in their own research.

The DACUM model is of substantial value to current and potential small business entrepreneurs and small family business entrepreneurs in the event of e.g. business succession. In the longer run, it is of value to the entire society. However, it should be noted that greater divergence might have arisen in the findings if more seminars and in different parts of Finland as well as in most European countries had been held. The educational background and sector of business of the seminar groups was somewhat less structured than the original Canadian DACUM model requires. In the event that entrepreneurs wish to ana-

lyze their work again, the DACUM analysis would have to be conducted again, which is a feature inherent to this model.

Although the DACUM model does not reveal all the qualities of the small business entrepreneur that a study of personality might bring up, it is not wholly lacking in the psychological approach. The survey of attitudes makes this possible. Use of the DACUM model is behaviouristic in nature due to the Bloomian classification, yet it presents in a concrete manner the expertise required of the small business entrepreneur. DACUM analysis is also a cost-effective method of study that can be executed in a fairly short amount of time. DACUM was developed for the purpose of analyzing the expertise required in a job and was originally intended for the development of a curriculum, from which its name derives. A psychological study of personality would require larger samples and results would be both more time-consuming and expensive to obtain.

The topical nature of the Bloomian approach is bolstered by the European Commission's European Qualifications Framework for Lifelong Learning (EQF 2004). Reflections of Bloom's taxonomy can also be discerned in the principles of the Finnish National Board of Education's national core curriculum for vocational education concerning common areas of emphasis and evaluation of core expertise. However, DACUM analyses in service of curriculum development and the EQF are not commensurate and comparable despite both speaking of core competence and attitudes, for example. The two start out from different premises and serve different goals. DACUM analysis is a practical and local instrument while the EQF is mostly administrative and designed to facilitate goals in the European dimension and the benchmarking of the educational systems of the various Member States.

Worthy of note is the fact that the targets of the framework based on European qualifications can be applied to practical education through analyses of occupational expertise developed together with representatives of business and industry. The DACUM model was developed in Canada for this particular purpose, to serve as a systematic approach to education that emphasizes the competences of the student once the degree programme is completed. In terms of curriculum planning, competence-based education focuses on the application rather than the acquisition of knowledge. It renders possible the use of job analysis charts of occupational expertise to describe occupational competences and as a tool in demonstrating competence.

### **6.2.2 Contribution to entrepreneurship education**

The findings of my research describe the competence of the entrepreneur active in a field of business: the skill sets of which such competence consists. In future, the availability of entrepreneurship training in keeping with the curriculum corresponding to these needs should be studied. The EU has adopted a stance strongly in favour of entrepreneurship, of which a prime example can be found in the "Framework for key competences in a knowledge-based society 2004: Entrepreneurship. (European Commission 2004)". According to this framework,

entrepreneurship supports all citizens in everyday life at home and in society and helps employees gain awareness of the wider context of their work and capitalize on opportunities that arise. It also provides the foundation for special skills and knowledge that entrepreneurs need when starting a social or commercial enterprise. Regardless, this framework as well starts out not with the needs of the entrepreneur but with the needs of business.

In light of my findings, the viewpoint of educational administration and a focus on teaching the skill sets required in business does not provide an appropriate foundation for evaluating entrepreneurship training. A comprehensive regard for the personality of the individual is of equal importance in terms of the outcome. Of the various skill sets of the small business entrepreneur, my research highlights the importance of personal skills, the development of which can be influenced through entrepreneurship education (see paragraphs 3.2.1 and 3.2.2).

In this context, Bloom's taxonomy is challenged by the taxonomy of Snow, Corno and Jackson (1996), in which personality consists of an affective and conative function and intelligence is treated as a cognitive and conative function (see 3.5.1). With this as their basis, Ruohotie and Koironen (2000) have analyzed entrepreneurship education from the perspectives of both personality and intelligence. They believe key processes are related to conative construction, i.e. motivation and will, while Bloom favours attitudes. Affectiveness thus emphasizes the key processes. The nature of entrepreneurship education as a world of the cognitive, affective and conative factors of intrapreneurship and owner-entrepreneurship according to Kansikas (2006, 418) reflects a need for the goal of a learning entrepreneurship. This would reflect the need for individual flexibility in learning the skills required of potential entrepreneurs in a given era, environment and life situation. Learning entrepreneurship is reflected in a motivation for active and independent learning. Learning entrepreneurship is an attitude that may manifest as pedagogical solutions. The same can also be achieved through a Bloom-based approach, in which the attitudes of the entrepreneur are structured directly at the analysis stage.

Like Remes (2003, 164), it must be said that as yet, there is too little debate within the arena of research both nationally and internationally about learning in entrepreneurship education. It would seem that a unanimous view of entrepreneurship education has been adopted in research, yet that view is too large an extent positioned in the field of adult education and leaves much to be desired in terms of entrepreneurship education as a part of civic education. The paradigm of teaching business plans perseveres within the business study unit in vocational education. Although periods of on-the-job learning bring the message from the business community that education in attitudes and interaction skills is of at least equal importance, this message is only slowly integrated into the curriculum. Even slower is its integration into education and learning. My research lends support to Remes' conclusion that due to a lack of scientific knowledge and slow development in teacher education based on scientific knowledge about entrepreneurship education, entrepreneurship education remains at risk of becoming something that does not produce entrepreneurs into

society.

Among the trends put forward by Himanen (2004, 2–4), the increase in pressures on welfare states very much concerns the future prospects of entrepreneurship education. An ageing population leads to financial problems while at the same time, a new global division of labour increases the pressure to curb the expenditure generally accepted in society. The welfare state can be maintained in the future only if its productivity is improved through innovations. The rise of cultural industries also has to do with entrepreneurship education, as the information society will expand especially in the field of culture. Schools and their educational materials are part of this field. Content is being digitalized and the sectors of information technology, telecommunications and media are converging. Small business entrepreneurs play a key role in addressing this problem. In this context, the interpretation of Koironen of the nature of the entrepreneur as visionary and actor would find its optimal place.

However, these challenges are not far from the opportunities which entrepreneurship education in our society could offer or which it desires to offer. The principle of lifelong learning (European Commission 2004) has for quite some time counted among key concepts in this respect. Entrepreneurship training alongside entrepreneurship education would make this an option for all members of society.

Of the aforementioned trends, ageing is one of the points of departure for my research, as the empirical data now recorded seeks an answer to the question of what entrepreneurs themselves believe they must be able to do. Consideration of how to transfer the expertise of entrepreneurs to successors is a possible practical application of my work. I have examined my findings against a backdrop of the views of various experts and researchers in entrepreneurship education. As a conclusion, I propose that the regular analysis of an entrepreneur's work using e.g. the DACUM model and comparing this to other research data permits the proper allocation of entrepreneurship training. At the same time, the tacit knowledge in the sector is systematically recorded for transfer to successors.

The importance of the global division of labour is growing and mobility between societies is increasing. Entrepreneurship could provide a natural vehicle for the integration of immigrants into Finnish society. Networking in the information economy could provide a solution to appropriate division of labour, adoption of innovations and specialization if multicultural backgrounds could be capitalized upon, besides which a lack of fluency in Finnish would not pose an obstacle to employment.

Gibb (2005, 47–48) has drafted different entrepreneur type classifications to serve as a basis for a curriculum. Similar type classification appears in this research e.g. in the results of the job analysis charts of small business entrepreneurs in Oulu, Finland and in Turkey, which indicated that entrepreneurs had strong role models as to the skill sets of small business entrepreneurs. Cognitive skills were emphasized in these role models, as were a behaviourist concept of knowledge and model learning. Learning to be an entrepreneur had taken place through trial and error, although some had a family business heritage. Nowa-

days, the successor is not necessarily part of one's own family; consequently, the entrepreneurial expertise outside the family may derive from entrepreneurship training and the two need to be reconciled through a shared vision. The demand for training in the skills required of a small business entrepreneur could be surveyed by combining the results provided by a DACUM model on entrepreneurial expertise with e.g. the entrepreneurial type classifications of Gibb.

Remes (2003, 164) has described the forms of entrepreneurship as analogues of entrepreneurship training as follows: 1) the manifestation of spontaneous entrepreneurship in pedagogic activities should be compared to the enterprising approach of the individual, 2) the manifestation of external entrepreneurship to the teaching of entrepreneurship information and the enterprising use of materials, and 3) internal entrepreneurship to the enterprising approach of society. The modelling put forward by Remes could be taken a step further by classifying entrepreneurial competences as cognitive, affective and psychomotor skills, as this serves practical curriculum planning in vocational entrepreneurship training, yet does not abandon the entrepreneurial type classifications created by Gibb. The importance of practical learning alongside theoretical education has long been known. Spontaneous entrepreneurship and its many aspects are best described by affective core skills (see Kyrö 1998 and 2005; Remes 2005). In vocational education, these core skills are best strengthened as a learning process in open learning environments, e.g. in practice enterprises and during periods of on-the-job learning, and they can be evaluated through demonstrations, which by definition concern the practical application of competences. The affective element of personality falls outside evaluation in demonstrations under current entrepreneurship training, although it should be evaluated alongside cognitive work processes.

To my mind, a good new practice in the Finnish arena would be the inclusion of family businesses in training and education, which would lend support to locating a successor within one's own family. Working for a family business could be integrated into implementation of the curriculum and evaluations could be carried out through demonstrations. Even now, legislation governing vocational education permits degrees to be taken through on-the-job learning. Creative solutions in this sector might play a critical role in locating and training successors for family businesses.

Competences evolve, as do qualifications. One might even speak of a life cycle of competences. Some basic competences are constants that are always required regardless of technology, and these have a long life cycle. On the other hand, there are also short-lived competences dependent on technology, which arise in connection with new products or services. Helakorpi (2005, 64–65) has broached this same subject matter by associating competences with either organization or duties as dependent or independent. He uses these to construct a four-field model based on organization and job, in which competences dependent on organization and duties are entitled intra-organizational and unique competences, while those independent of organization or duties are called metacompetence and technical competence. This approach falters, however, if

competences are examined as individual and collective. Collective competences have to do with the organization and working within it. This would give the four-field a new interpretation, making metacompetence and unique competence personal and individual competences possessed by the individual regardless of organization. It would seem that technical competence would mainly have to do with the organization and working within it. If an individual leaves the organization, his individual and unique competences leave with him. The organization will have to continue its activities by training new employees to master the intra-organizational and technical competences. Helakorpi's views have some overlap with the interpretation of competences appearing in the European Qualifications Framework (EQF 2004).

A discussion is currently underway between the worlds of work and education on the teaching of competences. Both parties are needed in this venture. In entrepreneurship training, for example, the general competences can be provided in basic education while occupational competences are acquired in further and supplemental education. Even this model alone cannot provide the solution to entrepreneurship training. The findings of this research speak in favour of complementing these models with knowledge generated by entrepreneurs themselves. The focus in basic education should be on management; marketing and sales executed in an open learning environment such as a practice enterprise, yet even this education would not be restricted only to traditional subjects. Instruction in marketing, for example, could also entail insight into the proactive aspects of the subject. The wider framework of business can be learned in an operating environment that mimics reality. Occupation-specific studies provide greater expertise in the relevant sector while also enhancing overall business expertise, teaching potential entrepreneurs to grasp the possible options for executing the necessary support functions.

The competence needs of business in a slightly wider context have been examined by Munch and Jakobsen (2005), who have stated that competence has become an important area of emphasis in education and industrial policy in recent years. Evaluation of the effectiveness of education has focused on qualification, understanding or ability. The concept of qualification has been nearly impossible to differentiate from that of competence in research on evaluation, as many factors in the everyday language of evaluation mix up the two. The meaning of good school performance and good business performance has been difficult to define. In entrepreneurship training, evaluation has even involved ethical issues. Entrepreneurship training becomes ethically questionable if the participants' current poor economic status is their only impetus for participation.

### **6.2.3 Contribution to advisory services for entrepreneurs**

In respect of the skill sets of the small business entrepreneur, it was concluded that a distinct line must be drawn between what the small business entrepreneur must be able to do and what skills are required in business. Small business entrepreneurs must comprehend the concept and totality of the business along with

the distinctive characteristics of each sector, i.e. they must possess cognitive knowledge of business activities. The success of the small business entrepreneur, on the other hand, demands that the entrepreneurial soul is located, which highlights affective skills alongside cognitive knowledge. The foundation consists of cognitive-affective-psychomotor skills. Advisory services for entrepreneurs may use this information to segment their services to entrepreneurs. Small business entrepreneurs say they wish to learn leadership, sales and marketing skills or wish that their enterprise be provided consultation in these fields. Financial administration and technical skills are areas they wish to outsource as support services, and advisory services for entrepreneurs might well provide a natural source for this particular expertise. Networking and global trading as part of the everyday life of the small business entrepreneur in future also demand a properly functioning system of entrepreneurial advisory services.

The findings of this research facilitate the work of advisory service providers by familiarizing new entrepreneurs and successors with the world of entrepreneurship. The knowledge already accumulated with DACUM job analysis charts about the elements making up the various core skill sets and the analysis of these elements allow the findings to be applied to the coaching of small business entrepreneurs and small family business entrepreneurs so that tacit knowledge can be transferred to the business successors alongside the enterprise's explicit knowledge. The development and career planning of the enterprise's other employees can also benefit when staffing requirements are surveyed, educational gaps discovered, job descriptions prepared and new tasks defined. DACUM provides a tried and tested model for these purposes.

#### **6.2.4 Contribution to business management**

Skill sets and the competences and attitudes contained therein are a broad concept which can only be processed superficially in an empirical fashion. In principle, it can be stated that competence is enhanced by all knowledge and expertise that others do not possess. Some areas of expertise are by nature very close to expertise that can be utilized in business. On the other hand, uncommon and seemingly unrelated knowledge or expertise may also suddenly prove to be a revolutionary business opportunity. (Lehtonen 2002, 11). Koiranen terms this visionariness, Roodt calls it proactivity. The findings of my research support the central role of small business entrepreneurs as both visionaries and actors.

Internationality and global development have had a stunningly rapid impact on everyday life and work. New occupations arise and old ones disappear. The ability to find structure in global development and to apply its constant challenges to one's own occupation represents genuine professional and evolving expertise as well as an ability to capture the surrounding world. Entrepreneurs are among the first to exhibit this in their work. (Ruohotie 1993; Castells 1996, 1997, 1998).

Conscious networking with small innovative enterprises allows business management to seize the small entrepreneurs' ability to create new business and capitalize on it. As Kirzner (1979, 48) once put it, "the ability to notice –

without search – opportunities that have been hitherto overlooked”. This represents the sector of small business entrepreneur expertise that according to my research is perceived by small business entrepreneurs to count among their most important skill sets. The practical contribution of this skill set is further supported by the views of Roodt.

According to Himanen (2004, 2–4), large concentrations of expertise are to an increasing degree controlling innovations and economics in regional development, as being on the top in global competition requires larger concentrations of expertise. The pace of development is adding to a constant state of emergency in the world of work. Increasing instability is emblematic feature of development. In a society of risk such as this, the challenge of sustainable development has taken centre stage. The skills prioritized by small business entrepreneurs themselves help in tolerating such instability. A consistent focus on building networks of small enterprises can transform a threat into an opportunity. The identification of small business entrepreneurs’ skill sets and the monitoring of the development of these skill sets also provide the DACUM model with an important administrative function.

Mises (1996, 290) claimed that the success or failure of an entrepreneur depended on his ability to properly anticipate the future. If he failed, the game was lost. The ability of the entrepreneur to succeed and make money depended on his ability to predict the needs of consumers better than anyone else. If the claim of Mises is examined in the light of Roodt and Tables 28 and 29 of this study, which compare the components of Finns’ and others’ skill sets, it finds support in the data on information seeking: anticipate the future, seek signals, seize the opportunity, identify the individual needs of customers, monitor global trends, require unique products, utilize knowledge and expertise concerning minorities, comply with legislation, stay current and find loopholes. These are what small business entrepreneurs themselves say they must be able to do. Mises in fact characterized initiators, speculators and entrepreneurs as similar to each other in that they were the first to comprehend the interdependence between what had been done and what should have been done. They guessed what consumers might want and were prepared to supply them with it (Mises 1996, 336).

Mises wishes to differentiate between entrepreneur and manager: “The illusion that management is the totality of entrepreneurial activities and that management is a perfect substitute for entrepreneurship is the outgrowth of a misinterpretation of the condition of corporations”. It is Mises’ view that “management as a function is always subordinate to entrepreneurship”. Although “it is possible to reward the manager by paying for his services in the same proportion as the entrepreneur makes a profit, he cannot be held accountable for losses incurred”. The incentives and responsibilities of a manager thus never fully correspond to those of an entrepreneur (Mises 1996, 306). The managerial function included in the soul of the small business entrepreneur takes its proper place here. It is a rational process that operates with scant resources, focusing on planning, organizing, managing, coordinating and monitoring in order to achieve the targets set.



### 6.3 Evaluation of research method

The data collection method employed in the research was the DACUM model, which has proven to function well in describing the work of the entrepreneur. The DACUM model benefits not only small business entrepreneurs but also small family enterprises planning business succession. In the longer run, use of the model will confer benefits to the wider society as well. Greater divergence might have arisen in the research findings if more seminars had been held in different parts of Finland or if the European participants had been chosen differently. The educational background and sector of business of the seminar groups was also less structured than the original Canadian model requires. Nonetheless, this was a pilot project with seminar-specific and participant-driven results.

A literature survey into the skill sets of small business entrepreneurs showed that small business entrepreneurship has grown significantly less local. There is a strong trend towards the global economy e.g. through networking. It was therefore essential in terms of the validity of the research to have regard also to the views of international small business entrepreneurs as to the skills they require.

The groupings in Bloom's taxonomy are not absolute, yet it provides a workable tool for determining the cognitive, affective and psychomotor objectives of the subjects taught. As the use of action verbs is material to the description of expertise and learning, their significance is highlighted in DACUM analysis. The action verbs describe the levels of the work and activities of entrepreneur as processes of expertise, which provides the participants with training in thinking at different levels. Reasoning skills develop when learning involves diverse activities. The findings emphasize the global similarity of business cultures and entrepreneurial expertise in different countries.

Although generalizations are not desirable in phenomenographic research (Syrjälä, Ahonen, Syrjäläinen & Saari 1996, 152), the research findings may be considered indicative. Should entrepreneurs wish to analyze their work again, the DACUM analysis needs to be repeated. The reliability of phenomenographic research is based on the validity of the data and the conclusions. The data and conclusions must correspond to the ideas of the research subjects while also connecting with the theoretical premises of the research (Syrjälä, Ahonen, Syrjäläinen & Saari, 1996, 152). As concerns the validity of the pilot study, it can be said that the research is a product of its time and place and can be varied if more seminars are organized and sector of business can be influenced.

In evaluating the research findings and the conclusions to be drawn from them, the question can be raised of how diversely the entrepreneurs have described their own expertise, their experiences of success and failure, their priorities and their cognitive skills and affective contribution in their work. Psychomotor skills did not readily lend themselves to verbal expression. It has been

my observation that cognitive knowledge is transferred by psychomotor means without the entrepreneurs' being consciously aware of it. In other words, cognitive knowledge is transferred in the form of activity when the need arises, yet the entrepreneur does not perceive knowledge as activity or takes it for granted. In this interpretation, I have sought to avoid "over-interpretation" by ensuring that expertise has been recorded faithfully in the form of verbs and that it has corresponded to the intent of the small business entrepreneurs and had relevance with regard to the theoretical component of the research. (Syrjälä, Ahonen, Syrjäläinen & Saari 1996, 152).

The conclusion can be drawn that the small business entrepreneurs above all have processed the content of their work and analyzed it in a very practical manner. Psychological analysis, on the other hand, only belongs to the Bloomian approach via attitudes. Nonetheless, relative to the time and resources used, the findings serve the requirements of work analysis and it has been possible to determine the core skill sets of the small business entrepreneur, which I had set as the goal of my research.

Tracking down tacit knowledge calls for particular creativity and inventiveness on the part of the researcher as facilitator. In a deviation from the structured DACUM model, at the card-writing stage I included a number of expressions used by small business entrepreneurs, some of which contained tacit knowledge. At the stage of data processing, these were sorted out from the rest and analysed separately.

The criterion for evaluating the reliability of qualitative research is the evaluability and repeatability of the data (Mäkelä 1992, 47-48). The data collected shall correspond to reality and have the same meaning for researcher and research subjects (intersubjectivity) (Ahonen 1996, 130). Once the DACUM job analysis chart has been completed, the charts and the ideas of the research subjects are ultimately interpreted through the researcher's personal conceptual world. The skills required of small business entrepreneurs as they estimate these refer to the reality obtained from the entrepreneurs in DACUM analysis, which is subject to interpretation and specific to each seminar. The interpretation arises from the small business entrepreneurs' subjective views of their own work.

The process of classifying data in phenomenographic research and the descriptions resulting from it also take place as subjective reasoning on the part of the researchers. (Järvinen & Karttunen 1997). The classification process in this research is basically a simple one. The researcher acts as facilitator to generate the work analysis charts and performs the first classification into cognitive, affective and psychomotor skills according to Bloom's taxonomy independently, on the basis of personal know-how and observations.

The breakdown of the DACUM job analysis charts into knowledge, skills and attitudes is a legitimate way for the researcher to generate information about the explicit and tacit knowledge of the research subjects as well as their valuations of individuality and linkage to culture and time. In order to review and validate the correctness of personal and subjective classification, the researcher reviews the classification together with the recorder, an experienced

sociologist and pedagogue who has taken part in all seminars and worked under the exact same conditions as the researcher. Differing views are discussed until a consensus was reached. The result of the classification of competences and attitudes in the manner described above thus represents one interpretation based on seven analyses, and as Ruohotie (2006) has noted, there are no clear-cut criteria for defining key competences.

The method of analyzing the knowledge generated by entrepreneurs themselves of their own expertise has been selected to keep interpretation with the concepts of the Bloomian approach: cognitive, affective and psychomotor skills, cognitive-affective, cognitive-psychomotor, affective-psychomotor and cognitive-affective-psychomotor skills. The description of the skills of the small business entrepreneur based on Bloom's taxonomy provides six core skill sets according to Roodt's model: technical, communications, management, innovation, information seeking and economic as well as personal skills. This method of presentation is based on the evaluation criterion for qualitative data stating that economy and comprehensive description should be sought in analysis by using the fewest concepts possible. (Nieminen 1998, 229).

The findings parallel theory to such a degree that the empirical findings obtained can in all likelihood be generalized beyond the cases studied also in terms of theory. Nonetheless, the subjectivity of the classifications always gives rise to the possibility of error. The boundaries between the categories of cognitive, affective and psychomotor are very much open to interpretation, which is why the classification of the researcher and thus also the validity of the research is strengthened by the participation of a highly experienced sociologist and pedagogue in the review stage of each classification.

The skill sets of entrepreneurs in light of the underlying theories presented bear a remarkable similarity to those expressed by entrepreneurs themselves. Might it be possible, as an outcome of this exploration into the core of the professional skill sets of the small business entrepreneur, to suggest that the information obtained from entrepreneurs themselves might be new and different? My intention was to raise the idea that a different method of studying entrepreneurial skills could bring up those core skills required today that entrepreneurs must have. The findings shed additional light on what is needed to generate knowledge for the purposes of entrepreneurship training, entrepreneurship research, advisory services for entrepreneurs and business management. Tacit knowledge was also traced through both entrepreneurs' utterances and the elements of psychomotor skills. The research only further underscored the magnitude of the problem of knowledge loss in enterprises unless steps are taken to actively record such the knowledge.

## 7 TOPICS FOR FURTHER RESEARCH

I propose an emphasis on two perspectives in further research topics: topics having to do with entrepreneurship training and entrepreneurship education.

### A. Further research topics relating to entrepreneurship training policy

According to the enclosed study, competence requirements in business have been examined also on a wider scale and it has been found that competence has become an important area of emphasis in education policy as well as industrial policy in recent years. The evaluation of the effectiveness of education has focused on qualification, comprehension or ability. The concept of qualification has been almost impossible to differentiate from the concept of competence in evaluation research, as the multiple actors involved in evaluation use an accommodated every-day language that produces widely diverging vocabularies, often using the terms 'qualification' and 'competence' interchangeably. A discrepancy would seem to be developing between what is honoured as good school performance and good business performance. Evaluation in entrepreneurship training has even involved ethical issues; the ethics of entrepreneurship training can well be challenged if the livelihood of people is a deciding factor. An examination of ethical concerns would shine much-needed light on this topical issue.

#### A. 1 Further research topic

##### Learning entrepreneurship as the nucleus of education

A new concept arose during my research: learning entrepreneurship. It reflects the need for individual flexibility in learning the skills which would-be entrepreneurs require in a given era, environment and life situation. Learning entrepreneurship is reflected in the motivation to learn actively and with initiative. Learning entrepreneurship is an attitude that can manifest as pedagogical decisions. Research into these pedagogical decisions would be topical owing to the need for their reform, and being a new concept, learning entrepreneurship

would also warrant further research.

#### A. 2 Further research topic

##### Potential of lifelong learning in entrepreneurship training

The principle of lifelong learning has occupied centre stage for quite some time also in the European perspective. Successful lifelong learning on the part of entrepreneurs as well calls for clear goals and a means for assessing progress and achievements. Alongside entrepreneurship education, entrepreneurship training would make this option available to all strata of society. Among trends related to this topic, ageing is one of the points of departure for my research. Converting the threat of ageing to an opportunity within the framework of entrepreneurship would also provide the answer to the succession needs of the nearly 80,000 small business entrepreneurs who are planning to retire in the near future.

#### A. 3 Further research topic

##### Different education needs of entrepreneur and business in the global networked economy

A survey of the current supply of entrepreneurship training and an analysis of its potential to respond to the findings of this research with regard to the various training needs of entrepreneurs and entrepreneurial activity would provide an interesting topic for further research. An in-depth examination and rethinking of the subject structure of business education to cater for the global networked economy among small business entrepreneurs is another avenue worth exploring.

In entrepreneurship training, basic education can provide the general skills while profession-specific skills are obtained in further and continuing education. This model alone is not the whole answer to entrepreneurship training, however. The findings of this research speak in favour of complementing the model with knowledge generated by entrepreneurs themselves. In basic education, the focus should be on management, sales and marketing, implemented in an open learning environment such as a practice enterprise, yet even this education need not be restricted to traditional subjects. Education in marketing, for example, might be retooled to incorporate the insight of its proactivity.

The wider frame of reference of business can only be learned in an operating environment mimicking actual reality. Profession-specific studies provide deeper expertise in particular sectors while also contributing to greater holistic business expertise, allowing would-be entrepreneurs to learn how to conceptualize their options for implementing vital support functions. The utilization of these research findings in further research would enhance study motivation and study completion rates among would-be entrepreneurs.

## **B. Topics relating to entrepreneurship education and its pedagogy**

The teaching methods commonly used in the past two decades to teach the contents of entrepreneurship have been the business plan, written materials inclusive of assignments and traditional classroom education, more recently joined by on-the-job learning and the practice enterprises. These remain the prevailing pedagogical solutions at most vocational colleges, which poses a challenge to modernizing entrepreneurship education. Development can only take place when the education of teachers is also modernized to accept an entrepreneurial pedagogy.

### **B.1 Further research topic**

Business owners and successors planning entrepreneurship education in the form of vocational basic education

The participation of family business owners and successors in teaching and education would, to my mind, represent a new model of entrepreneurship education in Finland. Locating a successor, perhaps within one's own family, and developing the educational offering to correspond to their needs would gain support from this approach. Working for the family business could be integrated into curriculum development and evaluation of demonstrations. As the legislation governing vocational education permits the taking of qualifications through on-the-job learning, research in this sector might play a crucial role in the development of family business successor education.

### **B.2 Further research topic**

Multicultural entrepreneurship as an asset for success

The importance of the global division of labour grows when integrating immigrants into Finnish society. Entrepreneurship may provide a natural conduit to employment. If multicultural backgrounds were to be capitalized upon, the networking of the information economy, for example, might deliver the solution to appropriate division of labour, sensitivity to seizing on innovation and specialization alike. The entrepreneurship opportunities of immigrants and related entrepreneurship education should be subjected to systematic study, allowing a simultaneous contribution towards locating solutions to the issues of integration and employment arising from the worldwide refugee problem.

### **B. 3 Further research topic**

On-the-job learning, practice enterprises and business incubators as developers of the competencies needed by entrepreneurs

Part of my study was an analysis of the expertise of small business entrepreneurs as expressed by them and in particular, the things small business entrepreneurs must be able to do in order to succeed as entrepreneurs. In light of my findings, the viewpoint of educational administration alone and a focus on

teaching the skills needed in business is not a sufficient starting point in the assessment of entrepreneurship education. A focus on awareness education is of equal importance in terms of the outcome. The issue is one of developing personality and intelligence. A study of the personal skills required of entrepreneurs would provide more information for the development of entrepreneurship education and for the more targeted education of would-be entrepreneurs. As forms of education offered at school, on-the-job learning, practice enterprises and business incubators of various kinds along with the innovative entrepreneurship teaching methods currently being developed enable also the strengthening of personality traits and attitudes and an emphasis on the desired competences. Research into this area would provide clues as to how this could be accomplished and what further development efforts might be undertaken.

## SUMMARY

### Introduction to the topic

The purpose of this study is to define the occupational skill sets that small business entrepreneurs consider essential to their work. The method is to give small business entrepreneurs an opportunity to express their views in small focus groups of peer entrepreneurs. Consensus opinions formulated by the groups were then meticulously documented. The results expose the very core or soul of entrepreneurial skill sets by determining what small business entrepreneurs feel they must be able to do. Acknowledgement and acceptance of tacit knowledge as part of one's skill sets would introduce a systematic approach to the recording of such knowledge and enable its transfer to co-workers or successors.

As the phenomenon studied concerns the skill sets of small business entrepreneurs, an educational aspect is introduced to the study. The skill sets of entrepreneurs may also be approached from the perspectives of research into entrepreneurship and entrepreneurs as well as the demands of business and competition, which in turn represent the business economics aspects of the study. The positioning of the study is illustrated in Figure 16.

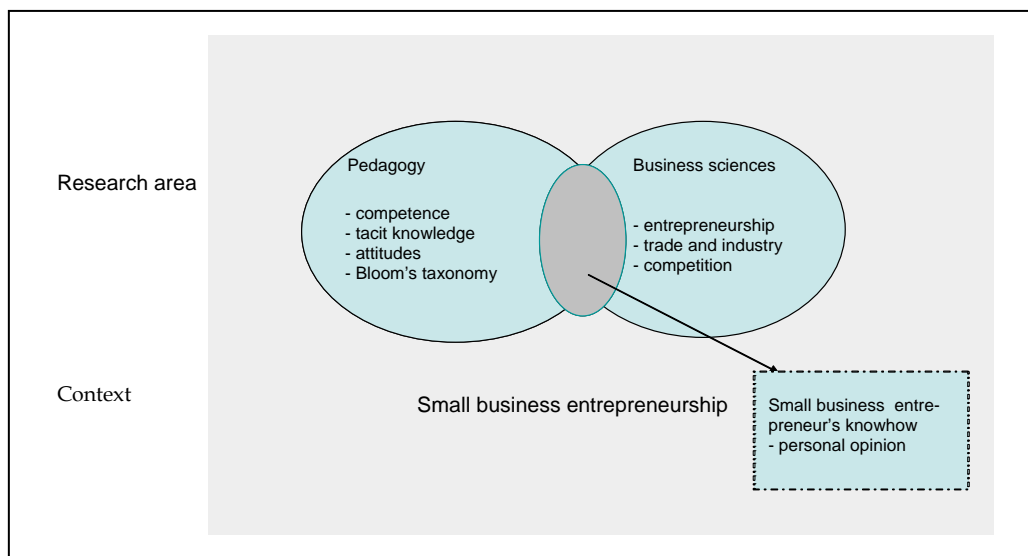


FIGURE 16 Research positioning

The direction of the study is guided by confining the phenomenon to the interface of education and business economics. In the study, I seek to profile the skill sets of entrepreneurs in light of earlier research and to link these with the perceptions of what small business entrepreneurs feel they must be able to do. The study represents a dialogue between theory which deals with entrepreneurial skill sets and the reality of the matter as expressed by entrepreneurs themselves.



## **Theoretical framework, research question and empirical data**

The theoretical framework consists of theories dealing with the general competence, attitudes, and expertise of entrepreneurs. The expertise is divided into cognitive, affective and psychomotor skills. These are then analysed using a theoretical model based on Bloom's taxonomy along with the summary described by Roodt.

The research question is: What skill sets does the small business entrepreneur personally consider essential to success? The objective of the study is to discover the answers to the following sub-questions:

1. What are the core skills or skill sets that entrepreneurs say make up their work, and what kinds of expertise are these made up of?
2. Which sub-skills make up the above core skills?
3. How can skill sets be classified into cognitive, psychomotor and affective elements?

4. How can knowledge and skills be divided into explicit and tacit elements?

The research approach is qualitative and phenomenographical. The empirical data were collected through a Finnish adaptation of the Canadian DACUM (Developing A CURriculum) model which is used to analyse the contents of the requirements of various occupations. In practice, the consensus opinions of knowledge, skills and attitudes formulated by the small business entrepreneurs are recorded and always commence with an action verb. The practicality of the DACUM model functioned as a method for collecting empirical data consisting of seven groups of small business entrepreneur respondents. In addition to the three groups in Finland, sessions were also arranged in Austria, Hungary, Lithuania and Turkey. The DACUM sessions were attended by a total of 30 Finnish and 29 foreign small business entrepreneurs.

## **Study design**

In this study, the work analysis charts created in the DACUM sessions charting the expertise of the small business entrepreneur are subjected to two rounds of analysis. In the first round, the cognitive (C), affective (A) and psychomotor (P) skills defined by the committees of entrepreneurs are analyzed in accordance with the Bloomian perspective. The second round of analysis consists of illustrating both the findings from both Finland and abroad by using a three-circle model designed for this purpose, the basic visual idea for which was obtained from Tagiuri and Davis (1996). After the analysis rounds, conclusions can be drawn on the map depicting the core of the small business entrepreneur's skill sets, which answers the question of what a small business entrepreneur feels he must be able to do.

The detailed research setting is presented below in Figure 17.

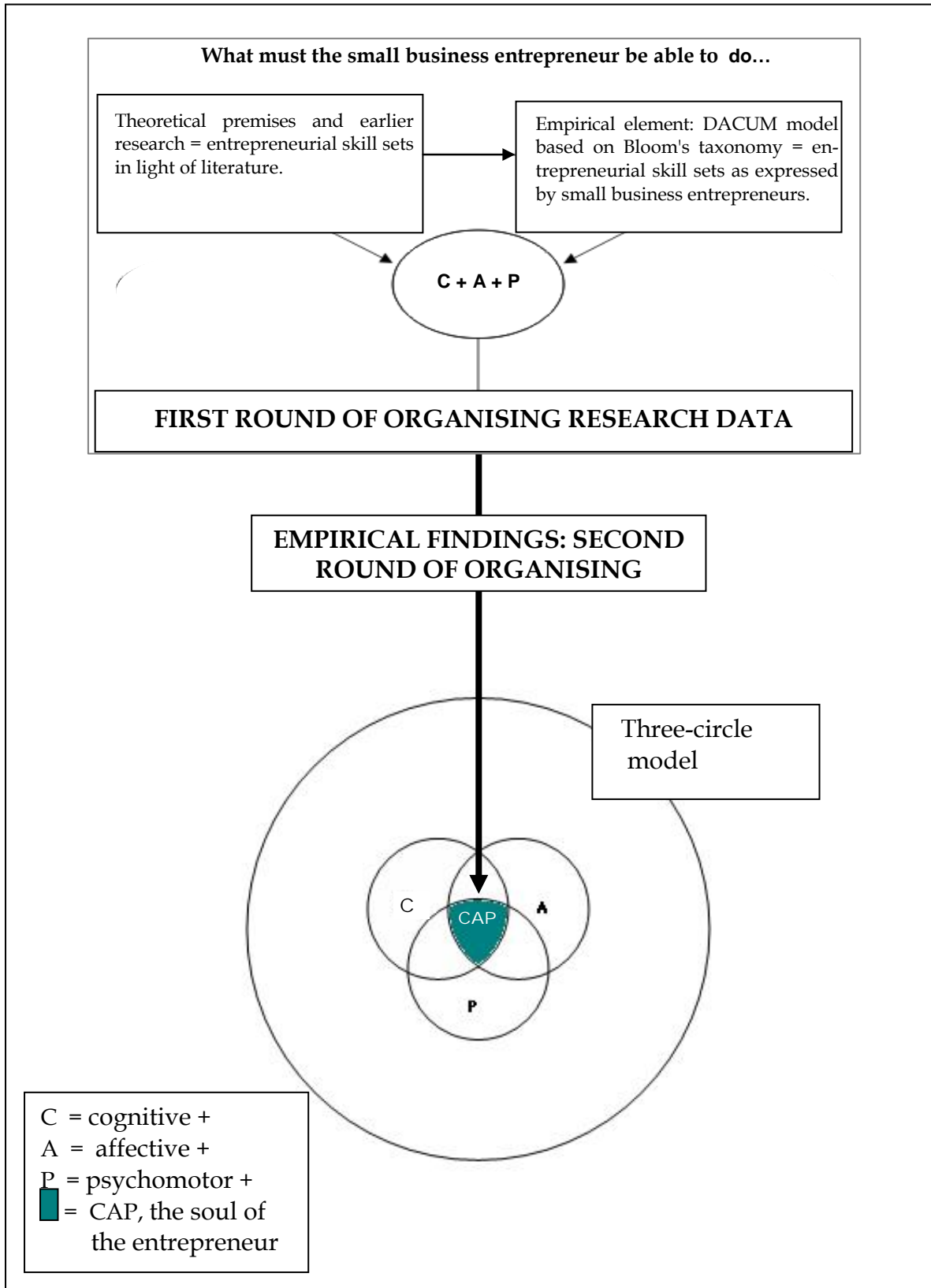


FIGURE 17 Detailed research setting.

### **Comparison of the cognitive, affective and psychomotor sub-skills of Finnish and foreign small business entrepreneurs to Roodt's summary of entrepreneurial skills**

In order to determine the relationship between the sub-skills of Finnish and foreign small business entrepreneurs in accordance with Bloom's taxonomy and earlier doctrine, the cognitive, affective and psychomotor sub-skills (i.e. the core) of entrepreneurs derived from the DACUM job analysis charts were compared to the summary presented by Roodt chosen to represent earlier research into entrepreneurial skills.

In the summary, Roodt presents the core skills of the entrepreneur as technical skills, communication skills, managerial and leadership skills, innovative skills, information-seeking skills, and financial and personal skills. A comparison of these to the cognitive, affective and psychomotor (CAP) skills expressed by small business entrepreneurs themselves in this study shows that managerial and leadership skills are given pre-eminence in both. Communication skills, innovation skills, information-seeking skills, and personal skills proved to be of nearly equal import.

These skills may further be compared to interpretations of the concept of entrepreneur such as that put forward by Knight (1971, 18) stating that even if the entrepreneur has the wisdom and the confidence to exploit existing business gaps, uncertainty must nonetheless be taken into account, leaving intuition and judgment as the sole guides. Knight ignores the possibility of entrepreneurs seeking to hedge against uncertainty by resorting to innovations in routine tasks, which today are referred to as "best practices", as these ideas diffuse too rapidly for pure profit to form.

The most significant outcome of the comparison is the remarkable similarity between both groups of entrepreneurs in terms of technical and financial skills. Neither Finnish nor foreign entrepreneurs consider these a part of their key expertise when compared to Roodt's views on entrepreneurial skills.

### **Findings of the study**

The study found that the core or soul of small business entrepreneurs' skills is devoted above all to leadership and management, with sales and marketing also playing a role. Although small business entrepreneurs view financial administration and technical skills as necessary and important, they do not view them as core elements, but rather as something that can be acquired from an outside source. The strong self-esteem that realises the entrepreneurial dream arises from the soul of the entrepreneur. The success of both the small business entrepreneur personally and his/her business require the entrepreneur to have an entrepreneurial soul. The entrepreneurial soul – the bedrock of skill sets – is made up of cognitive-affective-psychomotor skills.

Small business entrepreneur expertise may also find its expression in the form of tacit knowledge. The transfer of tacit knowledge to co-workers or suc-

cessors is conditional upon its acknowledgement, identification and more detailed definition. Tacit knowledge is most clearly transferred through competence and attitudes that may be classified as affective. Tacit knowledge often also consists of psychomotor skills, which are nonetheless perceived by small business entrepreneurs as cognitive skills because they are more or less taken for granted. The acknowledgement and acceptance of tacit knowledge as part of one's core skills would introduce a systematic approach to the recording of such knowledge and enable its transfer to co-workers or successors.

The significance of the entrepreneurial soul discovered in this study (Figure 18) is further highlighted by the important observation that the entrepreneurial soul manifests in quite a similar form not only in Finland and elsewhere in Europe but also in the culturally divergent Turkey. The small business entrepreneurs' skills have a greater impact on the entrepreneurial soul than do their political or religious beliefs, or their ethnical background or geographical location.

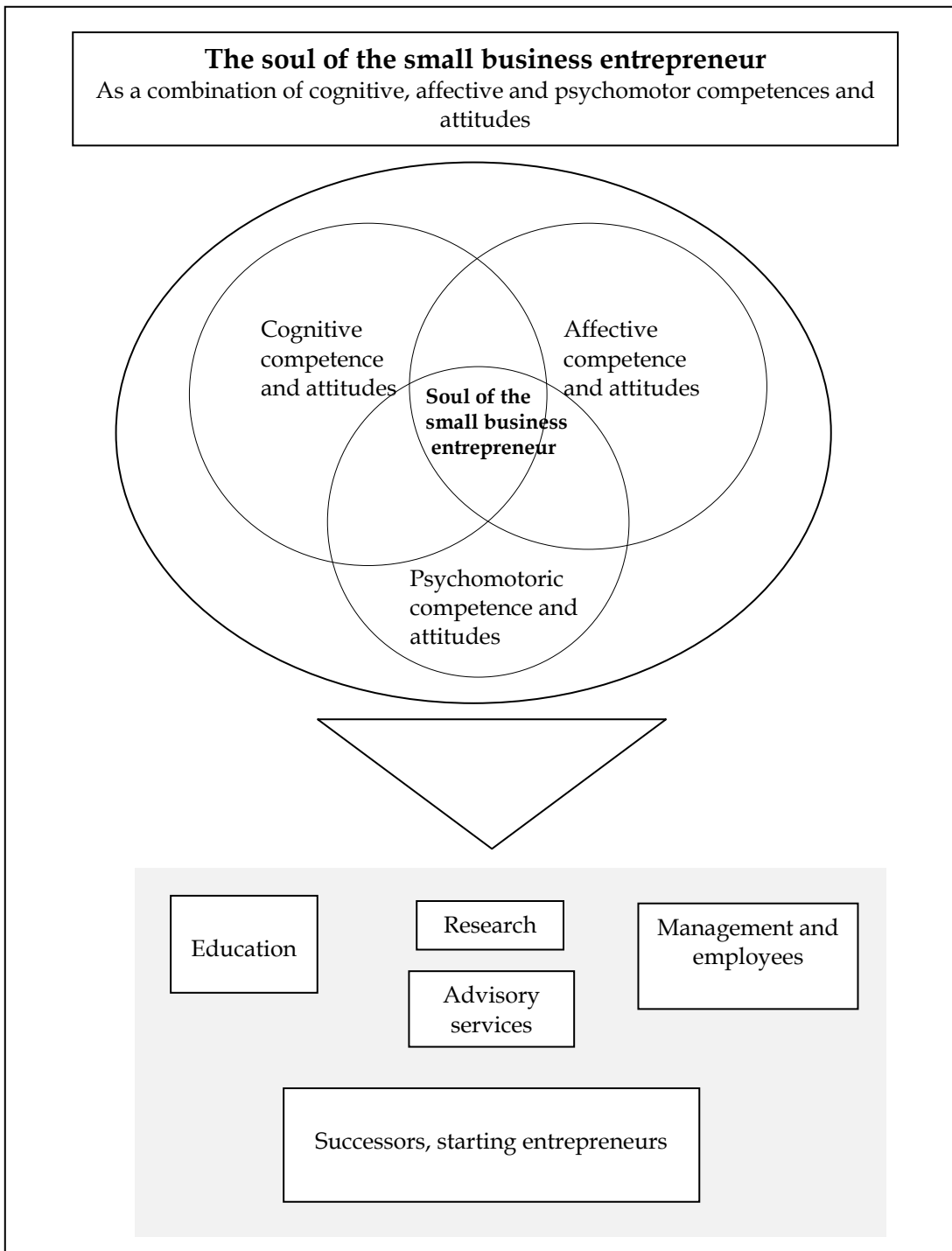


FIGURE 18 The soul of the small business entrepreneur and the contribution of this research for small business entrepreneurs

## Conclusions

When it comes to the expertise of small business entrepreneurs and the core of their skill sets, it can be concluded that a distinct line should be drawn between **what entrepreneurs must be able to do and which skills are required in business administration**. Small business entrepreneurs must comprehend the concept and totality of the business along with the distinctive characteristics of each sector, i.e. they must possess a cognitive knowledge of business activities. Affective and psychomotor skills are now highlighted in the expertise of small business entrepreneurs alongside the traditionally emphasized cognitive skills. The skills of small business entrepreneurs in light of the underlying theories presented have much in common with those expressed by them personally. *Would a possible outcome of this journey into the core of the professional skills of small business entrepreneurs be the proposition that information of a new and different kind can be obtained from the entrepreneurs themselves?* The goal was to introduce the notion that a different approach to studying the expertise of entrepreneurs highlights the currently required skills which entrepreneurs must possess. The findings provide additional insight into what is required to generate knowledge for entrepreneurship education and research, advisory services in entrepreneurship and corporate management.

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## APPENDICES

APPENDIX 1 Kutsu

### "MITÄ ON YRITTÄJÄOSAAMINEN?"

➤ **vain olemalla parhaita pärjäämme kilpailussa**

*Helsinki Business College järjestää yhteistyössä Suomen Yrittäjien kanssa Dacum-kutsuseminaarin yrittäjien tietojen ja taitojen kartoittamiseksi*

### Olet osaamisen asiantuntija yrittäjänä!

**Dacumissa saatuja tietoja voit hyödyntää omassa työssäsi ja tietoa käytetään yrittäjille suunnatun koulutuksen sekä yrittäjäysovetuksen kehittämisessä. Tietoa käytetään myös väitöskirjatutkimuksessa.**

Kaikkien työtehtävien oikein tekeminen vaatii tiettyjä tietoja, taitoja ja asenteita.

Tehokas tapa kuvailla työtä on määritellä ne työtehtävät, joita ammattitaitoiset yrittäjät ja työntekijät tekevät.

Tiedämme, että Sinulla on erittäin hyvä kokemus ja osaaminen yrittämisestä. Haluamme nyt päivänvaloon nämä tiedot ja taidot, jotta löytäisimme niiden avulla sen hiljaisen tiedon, jolla yrittäjä menestyy. Olet avainasemassa luomassa sellaista yrittäjän muotokuvaa, joka antaa mahdollisuuden menestyville yrittämiselle tulevaisuuden Suomessa.

Haluamme tietää, mitä Sinä ammattitaitoisena yrittäjänä teet. Tämän tiedon etsimisessä meitä tulevat auttamaan Helsinki Business Collegen koulutusjohtaja Hely Westerholm ja Senior Advisor Helena Allahwerdi. Myös yrittäjyyden professori **Matti Koironen** on lupautunut etsimään viisasten kiveä toisena seminaaripäivänä.

Dacum ("Deicum") on Kanadassa kehitetty ammatillisen työn analyysimenetelmä, joka on nykyisin otettu käyttöön mm. Yhdysvalloissa, Uudessa Seelannissa, Brasiliassa, Unkarissa ja Saksassa. Se perustuu competence-based learning -ajatteluun, jossa korostetaan työssä tapahtuvaa, aktiivista tekemistä ja sen avulla oppimista ja osaamista. Mallin avulla voidaan työssä tarvittava osaaminen määritellä tarkasti. Se antaa välineitä mm. henkilöstöhallinnon ja koulutuksen asiantuntijoille eri tehtäväkokonaisuuksien kartoittamiseen.

Sinun tehtäväsi on antaa seminaarin käyttöön erityisosaamisesi. Älä pelkää, ettei Sinulla olisi tarvitsemaamme tietoa. Jos olet innostunut työstäsi ja Sinulla on vahva kokemus yrittäjänä – se riittää!

KUTSU

Hely Westerholm/Helena Allahwerdi/LS

8.10.2004



Ohjelma                    **10.11. klo 11.30 - 18.45**    1. seminaaripäivä  
                                 **11.11. klo 08.30 - 16.30**    2. seminaaripäivä

Paikka                    Helsinki Business College, Hattulantie 2

Ilmoittautuminen    Ilmoittautumiset 3.11.2004 mennessä vastaanottavat  
                                 ja lisätietoja seminaarista antavat

- Hely Westerholm, puh. 050 3778873    [hely.westerholm@hbc.fi](mailto:hely.westerholm@hbc.fi)
- Veli-Matti Lamppu, puh. (09) 2292 2868  
                                 [veli-matti.lamppu@yrittajat.fi](mailto:veli-matti.lamppu@yrittajat.fi)

**Seminaari on kutsuseminaari ja osallistujille maksuton.**

Lisätietoja Helsinki Business Collegesta saat osoitteesta  
[www.hbc.fi](http://www.hbc.fi)

Sydämellisesti tervetuloa!

HELSINKI BUSINESS COLLEGE

SUOMEN YRITTÄJÄT

Antti Loukola  
rehtori

Veli-Matti Lamppu  
koulutusasiamies

# Luottamuksellinen!

DACUM-seminaari  
16.-17.6.2005 Kuopiossa  
”Mitä on yrittäjäosaaminen?”



APPENDIX 2 Suomenkielinen taustatietolomake

**1. Sukupuoli**

- nainen  
 mies

**2. Ikä** \_\_\_\_\_

**3. Perhe**

- aviossa/avoliitossa, lapsia  
 aviossa/avoliitossa, ei lapsia  
 yksineläjä  
 yksinhuoltaja

**4. Asuinalue**

- Suur-Helsinki  
 muu Etelä-Suomen lääni  
 Länsi-Suomen lääni  
 Itä-Suomen lääni  
 Oulun lääni  
 Lapin lääni  
 Ahvenanmaan maakunta

**5. Koulutus** (yksi tai useampi vaihtoehto)

- peruskoulu / kansakoulu / keskikoulu  
 lukio / ylioppilas  
 ammatillinen oppilaitos (esim. kauppaoppilaitos, ammattioppilaitos)  
 ammattikorkeakoulu  
 tiedekorkeakoulu tai yliopisto  
 muu koulutus, mikä? \_\_\_\_\_

**6. Asema perheyhtymässä** (yksi tai useampi vaihtoehto)

- hallituksen jäsen  
 toimitusjohtaja  
 muu johtaja  
 muu työntekijä / asiantuntija  
 ei mikään

**7. Minä vuonna aloitit yrittäjänä?** \_\_\_\_\_

**8. Kuka perusti yrityksen, jossa aloitit yrittäjäurasi?**

\_\_\_\_\_

**9. Yrityksen koko**

- henkilöstö \_\_\_\_\_  
hlöä \_\_\_\_\_
- 0-4 hlöä  
 5-9 hlöä  
 10-49  
 50-249  
 250-499  
 yli 500

**10. Yrityksen yhtiömuoto** \_\_\_\_\_

**11. Yrityksen liikevaihto/v** \_\_\_\_\_



**Luottamuksellinen!**

DACUM-seminaari  
16.-17.6.2005 Kuopiossa  
”Mitä on yrittäjäosaaminen?”



12. Yrityksen toimiala \_\_\_\_\_
13. Oletko toiminut ko. toimialalla palkkatyössä ennen yrittäjäuraasi?  
 kyllä  en  
Kuinka kauan? \_\_\_\_\_
14. Oletko siirtynyt toiselle työnantajalle yrittäjäurasi jälkeen?  kyllä  en
15. Onko yrityksessä tapahtunut sukupolvenvaihdos?  
 kyllä  ei  
Kuinka mones sukupolvi? \_\_\_\_\_
16. Oma omistusosuus yrityksestä? \_\_\_\_\_
17. Perheen/suvun omistusosuus yrityksestä? \_\_\_\_\_
18. Omistajien lukumäärä \_\_\_\_\_
19. Työskenteleekö yrityksessä perheen/suvun jäseniä?  kyllä  ei  
▶ Kuinka monta? \_\_\_\_\_  
▶ Missä tehtävissä? \_\_\_\_\_  
\_\_\_\_\_
20. Onko sinulla varamies/-nainen esim. oman sairastumisen tai muun poissaolon ajalle?  
 kyllä  ei
21. Sukupolvenvaihdos yrityksen johdossa  
▶ tulee ajankohtaiseksi \_\_\_\_\_ vuoden kuluessa  
▶ en osaa / halua sanoa   
▶ ei ole ajankohtaista lähimmän 10 vuoden aikana   
▶ on jo tapahtunut
22. Jos sukupolvenvaihdos tulee ajankohtaiseksi  
▶ jatkaja löytyy perheestä / suvusta   
▶ jatkaja ei löydy perheestä / suvusta   
▶ yrityksen toiminta loppuu
23. Aiotko jatkaa hallituksen jäsenenä vielä johtajuudesta luopuessasi?  
 kyllä  en tiedä  en jatka

**Luottamuksellinen!**

DACUM-seminaari  
16.-17.6.2005 Kuopiossa  
"Mitä on yrittäjäosaaminen?"



24. Olisitko valmis myymään yrityksesi osakekannan ulkopuolisille esim. yrityksen  
pitkäaikaisille työntekijöille, jos perhepiiristä ei löydy jatkajaa?

kyllä  en

25. Millaisia ominaisuuksia arvostat eniten yrittäjässä?

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26. Minun on mahdollista osallistua pk-yrittäjien "hiljainen tieto" jatkotutkimukseen.

kyllä  ei

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Yhteystietoni

27. Annan luvan käyttää antamiani tietoja tutkimuksen tekemiseksi väitöskirjaa varten.

kyllä  ei

**Kiitos vastauksistasi!**

# Confidential!

DACUM seminar  
March 30-31, 2005 in Ankara, Turkey  
"Dacum model about SMC entrepreneurship"



HELSINKI

BUSINESS

COLLEGE

since 1881

## APPENDIX 3 Englanninkielinen taustatietolomake

### 1. Gender?

- female  
 male

### 2. Age? \_\_\_\_\_

### 3. Family?

- married / children  
 married / no children  
 living alone  
 single parent

### 4. Living area?

- Ankara  
 in the suburbs  
 somewhere else \_\_\_\_\_

### 5. Education (one or more choices)?

- basic education (comprehensive school proper)  
 high school (comprehensive school proper)  
 vocational education  
 polytechnics  
 university  
 other education, what? \_\_\_\_\_

### 6. Type of enterprise?

- family enterprise  
 SMC  
 other, what? \_\_\_\_\_

### 7. Status in the enterprise (one or more choices)?

- member of the board  
 managing director  
 other director  
 expert  
 other, what? \_\_\_\_\_

### 8. When (what year) did you start as an entrepreneur? \_\_\_\_\_

### 9. Who established the enterprise in which you started to work as an entrepreneur?

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### 10. The size of the enterprise?

- ▶ staff  0-4 persons  5-9 persons  10-49 persons  
 50-249  250-499  over 500

### 11. Company form? \_\_\_\_\_

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"Dacum model about SMC entrepreneurship"



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12. Company turnover/year? \_\_\_\_\_
13. Business branch?  
\_\_\_\_\_
14. Have you worked as an employee in the same business branch before you became an entrepreneur?  yes  no  
For how long time? \_\_\_\_\_
15. Have you been transferred to another employer after your career as an entrepreneur?  
 yes  no
16. Has the company had the change of generation?  yes  no  
How many changes in a row? \_\_\_\_\_
17. Your share of ownership? \_\_\_\_\_
18. Family share of ownership of the company? \_\_\_\_\_
19. Number of owners? \_\_\_\_\_
20. Do the family members work in the company?  yes  no  
▶ How many? \_\_\_\_\_  
▶ In what capacities? \_\_\_\_\_
21. Do you have a substitute if you become sick or if you are absent?  
 yes  no
22. Change of generation in the leadership of the company?  
▶ takes place at the moment   
▶ is topical in \_\_\_\_\_ years   
▶ I don't know/I don't want to tell   
▶ is topical after 10 years   
▶ has already taken place
23. If the change of generation becomes topical?  
▶ the successor is found from the family   
▶ cannot be found from the family   
▶ the company is closing down

**Confidential!**

DACUM seminar  
March 30-31, 2005 in Ankara, Turkey  
"Dacum model about SMC entrepreneurship"



HELSINKI  
BUSINESS  
COLLEGE

24. Do you plan to continue as a member of the board if you resign from the leadership of the company?  yes  I don't know  no

25. Are you ready to sell your share of the company to an outsider e.g. to an employee who has worked in the company for a long time, if the successor is not found in the family circle?  yes  know

26. What skills do you value most in the entrepreneurship?

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27. I can participate in the further research about SMC entrepreneur's tacit knowledge?

yes  no

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My contact information

28. I shall permit the use of the information I have given for the doctoral thesis?

yes  no

**Thank you for your answers!**

## APPENDIX 4 Yrittäjä-DACUM HBC:ssä 10.-11.11.2004

**Työryhmä:** Pentti Heinonen, Anna Kairtamo, Pirjo Kuisma, Vesa Lehtonen, Raija Leskinen, Josef Olejniczak, Ensio Paakkanen, Pirjo Palomäki, Ensio Romo, Pirjo Savolainen

**Fasilitaattori:** Hely Westerholm, **kirjaaja:** Helena Allahwerdi

**Yrittäjän täytyy osata...**

<b>Ryhtyä yrittäjäksi</b>	olla oman itsensä herra	keksiä hyvä liikeidea	ei siedä auktoriteetteja	ymmärtää, että mikään ei ole koskaan valmista	"tavoite" olla alansa paras
<b>Johtaa yritystä</b>	tehdä päätöksiä	keksiä ratkaisuja	hallita riskejä	delegoida "osaamattomuus" asiantuntijoille	olla esimerkkinä
<b>Johtaa itseään</b>	kehittää omaa ammattitaitoa	pitää huolta hyvinvoinnista	pitää lomaa	osallistua järjestö- ja kansalaistoimintaan	hallita päivittäiset ruutiinit
<b>Suunnitella ja kehittää tuotteita</b>	tunnistettava asiakkaiden tarpeet	innovoida tuote	muotoilla tuote	hyödyntää olemassaolevia tuotteita	"haistaa" uudet tuotteet
<b>Markkinoida tuotteita ja palveluja</b>	palvella asiakkaita	myydä tavaroita ja palveluja	ostaa ja hinnoitella tuotteita	tuntea eri kulttuurit	olla markkinoiden "paras"
<b>Hallita taloutta</b>	tehdä tulosta	tunnistaa eri rahoituslähteet	hallita kassavirtaa	perustella omaa hinnoittelua ja tuotteiden lisäämistä	kyseenalaistaa taloudellisia käytäntöjä
<b>Johtaa henkilöstöä</b>	motivoida	rekrytoida henkilökunta	"kasvattaa" työyhteisöä	hoitaa irtisanomiset	jakaa työniloa
<b>Kehittää yritystä</b>	ennakoida tulevaa	keksiä uutta	toimia ajan hermoilla	uskaltaa olla erilainen kuin kilpailijat	oppia työtä tekemällä
<b>Organisoida työtä</b>	hallita ajankäyttö	laatia aikataulu	suunnitella ja laatia työt	mallintaa työtä	priorisoida asiat ja työt järjestykseen
<b>Kommunikoida</b>	kuunnella	tehdä tiimityötä	keskustella luottamuksellisesti ja avoimesti	neuvotella asioista	luovuttaa omaa osaamista
<b>Hallita tietoa</b>	seurata markkinoita	tietää, missä mennään	tulkita faktoja	hyödyntää tietoa	soveltaa tietoa

aistia tulevaisuuden tarpeet ja mahdollisuudet	omaa yrittäjän tuntosarvet	hallita yrityksen kokonaisuus	omata sisäinen paloryhtyä yrittäjäksi	pyrkii elättämään itsensä yrittäjänä	arvostaa omaa työtä ja työntekoa
hallita voimavarat	ulkoistaa toimintoja	rajata ydinosaaminen	hallita muutoksia	siirtää omaa tietotaitoa	käyttää luovuutta
hallita elämäntilanteet olla aikaansa edellä	toimia monikulttuurisesti	kestää stressiä	löytää vertaistukea	hyödyntää positiivista stressiä	uhmata vakiintuneita käytäntöjä
välittää suomalaista käden taitoa (kulttuuria)	valmistella tarjouksia	tuntea kilpailijat	organisoida kampanjoita		
tehdä järkeviä taloudellisia päätöksiä	pystyä toimimaan "suusäkkiä myöten"	tehdä budjetti	tehdä vaihtoehtolaskelmia	tinkiä	hallita yrityksen taloushallinto
kannustaa	kunnioittaa toista	ylläpitää myönteistä ilmapiiriä	ohjata henkilökuntaa	uskaltaa palkata itseään viisaampia töihin	johtaa energiaa, "virtaata"
reagoida nopeasti haasteisiin	tunnistaa/identifioida yrityksen "osaamisen" tähdet	tunnistaa yrityksen vahvuudet			
juoksuttaa käytäntöjä	opettaa hiljaista tietoa	joustaa eri tilanteissa	ei tinkiä laadusta		
antaa ja ottaa palautetta	verkostoitua	hallita vuorovaikutustaidot			
hakea signaaleja	kerätä tietoa	analysoida tietoa	pitää yhteyttä sidosryhmiin		







## APPENDIX 5 Yrittäjä-DACUM Oulussa 16.-17.3.2005

*Työryhmä:* Esa Ala-Mutka, Jorma Heikkilä, Sylvi Hurskainen, Pirjo Kahelin, Marketta Kolehmainen, Eero Koskelainen, Vuokko Kylmänen, Maija-Leena Laajanen, Toini Lämsä, Hilikka Mattila, Riitta Nori, Mailis Pekkala-Kolehmainen, Pirjo Tiikkala

*Fasilitaattori:* Hely Westerholm, *kirjaaja:* Helena Allahwerdi

**Yrittäjän täytyy osata...**

<b>Suunnitella yrityksen toimintaa</b>	luoda oma työpaik-kansa	tuntea hyvin oma toimialansa	perustaa yritys	kehittää yritystoimin-taa	suunnitella yrityksen imagoa
<b>Myydä tuotteita / palveluja</b>	kehittää yrityksen imagoa	myydä tietoa	myydä ammattitaitoa	herättää luottamusta	myydä turvallisuutta
<b>Markkinoida tuotteet</b>	tuntea asiakkaiden tarpeet	tehdä ilmoituksia	tehdä suoramarkki-nointia	toteuttaa me-diamainontaa	käyttää "puskaradioita"
<b>Palvella asiakkaita</b>	(kohdata) huomioi-da asiakas	hymyillä asiakkaalle	toimittaa palveluja ja tuotteita	taata nopeat toimituk-set	muistaa "asiakas"
<b>Johtaa yritystä</b>	ottaa vastuuta	antaa työtehtäviä	asettaa tavoitteita	vastata tiedonkulusta	jakaa vastuuta
<b>Ostaa tuotteita, palveluja ja materiaaleja</b>	hallita hintatietoi-suus	tunnistaa "laatutuot-teet"	keskittää ostokset	pyytää tarjouksia	ostaa ammattitaitoa
<b>Hallita taloushallinto</b>	tehdä rahoitussuun-nitelma	laatia budjetti	verrata tulosta budjet-tiin	seurata budjettia	luottaa yhteistyö-kumppaneihin
<b>Organisoida toimintaa</b>	suunnitella ajan-käyttöä	tiimiytyä	selkiyttää vastuualueet	jokainen tekee kaikkea	antaa tehtäviä
<b>Huolehtia henkilöstö-hallinnosta</b>	kouluttaa henkilö-kuntaa	kannustaa työnteki-jöitä	pitää yllä ammattitai-toa	tehdä työlistat	käydä kehityskeskuste-luja

astua tuntemattomaan	suunnitella investoin- teja	tehdä markkinatut- kimuksia	suunnitella työtehtäviä	laatia lyhyen ja pitkän aikavälin suunnitel- mia	tehdä varasuunnitel- mia
huolehtia tuotteen "yl- läpidosta"	myydä ratkaisuja on- gelmiin	myydä "unelmia"	kehittää tuote-/palvelu- ratkaisuja	toimia "Leelian lepo- tuolina"	vahvistaa asiakkaan itsetuntoa
ottaa käyttöön ja yllä- pitää kotisivuja	mennä messuille ja markkinoille	antaa esitteitä	järjestää asiakasiltoja	antaa näytteitä	käyttää katumainon- taa
"kuunnella" asiakasta	määrittellä asiakkaan tarpeet oikein	hoitaa asiakas asian- tuntevasti	palvella tasapuolisesti kaikkia asiakkaita	"ei ole koiraa karvoi- hin katsomista"	kunnioittaa jokaista asiakasta
pitää asiat järjestykses- sä	toimia intuition varas- sa	aistia ajan henki	elää ajan hermoilla	kannustaa ihmisiä (asiakkaita /henkilökuntaa)	ratkaista riitatilanteita
ostaa tietoliikennepal- velut	ostaa huoltopalveluja	vuokrata erikois- työ- laitteita	ostaa yrityksen vartioin- ti	hankkia vuokratiloja	vuokrata työvoimaa
tehdä tulosta	hallita lakisääteiset velvoitteet	pitää langat omissa käsissä	toimia pitkäjänteisesti	seurata uutisia ja maa- ilman tapahtumia	ennakoida tulevaa
järjestää palaverit	vääntää rautalangasta	automatisoida toi- mintaa	toimittaa oikeaan aikaan tuotteita ja palveluita "oikeille asiakkaille"	valvoa yrityksen toi- mintaa	tehdä valintoja hin- noittelun perusteella
säästää henkilökuluis- sa	huomioida henkilö- kemat	hyödyntää henkilös- tön taidot	palkita työntekijöitä	antaa heti palaute	niin metsä vastaa kuin siihen huude- taan

"kilauttaa kaverille"	suunnitella verkostoitumista	suunnitella kausituotteita ja kampanjoita	huolehtia omasta jakamisesta	varautua sairauksiin	harkita sukupolvenvaihdosta
ennakoida huollon tarvetta	varautua epärehellisyyteen	vähentää "hävikkiä"	tarjota parkkipaikkoja	myydä takuutuotteita	
somistaa näyteikkunat	luoda uusia tarpeita	"kaveri käy kaverilla"	antaa alennuksia	markkinoida unelmia	päivittää oikea hinta
kysellä asiakkaalta neuvoja	antaa vaihtoehtoja	antaa ohjeita asiakkaalle	toteuttaa yksilöllistä palvelua	poistaa epävarmuutta	tuottaa mielihyvää
ratkaista ongelmia	tuntea "sormenpäissään näppituntumaa" yrityksen toiminnasta	saada hankalista ihmisistä asiakkaita	pitää sanansa	kyseenalaistaa käytäntöjä	raportoida henkilöstölle yrityksen tilasta
ostaa alihankintoja	ostaa koulutuspalveluja	erikoistua laatutuotteisiin	ostaa omalta reviiriltä	olla ympäristötietoinen	hankinnoissa ei saapettää asiakasta
ymmärtää ja seurata talouden kehitystä	varautua yllättäviin tilanteisiin	pitää varansa taloudellisesta manipulaatiosta	"tyhmyys opettaa"	varoa "väärää" tietoa	"ihminen selviää vaikka mistä, kun on pakko"
ottaa hyöty "ilmaisesti" työvoimasta	valmistella tulevat työt	järjestää varasto menekin mukaan	tunnistaa asiakkaiden yksilölliset tarpeet	viedä ammattitaito käytäntöön	suunnitella varaston kierto
antaa (ilmaista) rakentavaa kritiikkiä	ohjata hoitoon, jos tarpeen	kuunnella työntekijöitä	pitää huolta työsuojelusta ja lakisääteisistä velvoitteista	muistaa merkkipäivät	

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välttää harhauttavaa mainontaa	hyödyntää julkisuuden henkilöitä			
antaa maistiaisja	piirtää tuote-ehdotuksia	kokeilla tuotteita	huomioida asiakkaan erityistarpeet	
delegoida työtä ja tehtäviä	edustaa yritystä	huolehtia omasta kunosta	uudistaa toimintaa	
elää voitolla, ei vain kaupalla	jos ei voita, niin pitää hävitä	löytää "valttikortit"	käytäntö opettaa	
puhaltaa yhteen hiileen	"olla oman onnensa seppä"	ajatella omilla aivoilla	"periksi ei anneta"	laskea kassa
varmistaa, mitä tehdään, miten tehdään	järjestää tilat heräteos- toille	säästää aikaa ja rahaa	saada osto ja myynti toimimaan resurssien mukaan	järjestää tiedotustilaisuuksia

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APPENDIX 6 Yrittäjä-DACUM Kuopiossa 16.-17.6.2005

*Työryhmä:* Paasivuori Riitta, Grekula Piia, Rautamäki Hannele, Vuori Ester, Nuutinen Erkki, Nuutinen Viljo, Ruotsalainen Veli-Matti, Luukkainen Heidi, Roivainen Sirkka-Liisa

*Fasilitaattori:* Hely Westerholm, *kirjaaja:* Helena Allahwerdi

### Yrittäjän täytyy osata...

<b>Omata vahva ammattitaito</b>	hankkia hyvä ammattialan koulutus	hankkia riittävästi työkokemusta	uudistua jatkuvasti	hankkia lisäkoulutusta	verkostoitua
<b>Hallita liiketoimintaosaaminen</b>	hinnoitella tuotteita ja palveluja	nähdä, että tulot ovat suuremmat kuin menot	tuntea markkinat	markkinoida	myydä
<b>Olla yrittäjäpersoonana</b>	olla innovatiivinen	olla rehellinen	olla kyky tehdä päätöksiä	saada muut tekemään	toimia pitkäjänteisesti
<b>Olla motivoitunut</b>	saada aikaan	nähdä visio tulevaisuudesta	kannustaa henkilökuntaa ja asiakkaita	iloita työn tekemisestä	sitoutua yrittämiseen
<b>Hallita kokonaisuuksia</b>	huomioida perhe ja saada perheen/omaisten tuki	ennakoida tulevaisuutta	tasapainottaa ammatillinen toiminta ja yksityiselämä	seurata maailman kehitystrendejä	katsoa toisen silmin "miten maailma makaa"
<b>Omata sosiaaliset taidot</b>	tulla toimeen ihmisten kanssa	tuntea sidosryhmät	hankkia eri sidosryhmien luottamus	kehittää yrityskulttuuria	ottaa käyttöön sidosryhmien tieto/taito
<b>Omata tilanneherkkyys</b>	kuunnella palautetta	sietää kriittistä palautetta	haistaa mahdollisuuksia	hyödyntää mahdollisuudet	valmentaa vastuuseen
<b>Laittaa asiat järjestykseen</b>	organisoida	priorisoida asiat ja työt	delegoida tehtäviä	osata sanoa "EI"	olla korvaamaton
<b>Tuntea omat rajansa</b>	käyttää asiantuntijoita	ladata "akkuja"	hankkia monipuolinen kielitaito	valita "oikeat" yhteistyöpartnerit	kyseenalaistaa oma osaaminen

siirtää "hiljaista tietoa"	hankkia laaja kulttuurin tuntemus	hyödyntää uutta tekniikkaa	luottaa omaan ammattitaitoonsa	kaivaa asiakkaan tarpeet	
tuntea yritystä koskeva alan lainsäädäntö	luoda unelmia	hyödyntää yrityksen osaaminen	kyetä luomaan luotettava yrityskuva	turvata yrityksen taloudellinen tulevaisuus	uskaltaa valita itseään viisaampaa henkilökuntaa
ei olla sinisilmäisiä	olla luotettava	omata riskinottokyky	olla yhteistyökykyinen	omata luontaista johtajuustaitoa	uskaltaa panna itsensä likoon
kunnioittaa asiakkaita	uskoa itseensä ja asiaan	omata "liukua"			
olla oikeassa paikassa oikeaan aikaan	antaa mahdollisuus turvalliseen ja ihmisarvoiseen vanhuuteen	oppia historiasta	tuntea asiakkaiden taustat ja historia	hallita riskejä	kehittää laatuosaamista
osallistua yhteiskunnan toimintaan	tehdä itsensä tunnetuksi	palvella ja neuvoa asiakkaitaan hyvin	kuunnella aktiivisesti	vaihtaa tietoa kilpailijoiden kanssa	
vastata asiakkaan tarpeisiin viivyttämättä	joustaa tilanteen mukaan				
ymmärtää "lepo-, lempi-, leija- ja liikunta-asioiden" merkitys					
pyytää apua myös muilta					



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rakentaa yrityksen perusta kunnolla ennen kuin lähtee kansainvälistymään	turvata riittävä rahoitus	toimia kurinalaisesti	laskea kustannuksia
jakaa vastuuta	kehittyä vahvana sisäise- nä yrittäjänä	rekrytoida oikeat ih- miset oikeisiin tehtä- viin	
tehdä laatujärjestelmä	ottaa yhteiskuntavastuuta		

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APPENDIX 7 DACUM seminar in Ankara, Turkey: March 30, 2005

**Developers:** Sadettin Gündog etc.

**Facilitator:** Westerholm Hely, **Card writer:** Allahwerdi Helena, **Interpreter:** Mehmet Bicer

**The entrepreneur must be able to...**

<b>Be a good craftsman and tradesman</b>	know what to do	have good knowledge of the business	know the products/services	know the details of the processes of the work	have the ability to combine skills and knowledge of 15 engineers
<b>Be trustful (reliable)</b>	keep the customers happy	keep records (how well the products function)	obey timetables	give quarantees	keep fair, real value
<b>Plan work</b>	go to work on time	have staff on time	cannot be certain about the next year's work	plan increase of products/production	keep track on Turkish economy and act upon it
<b>Provide sustainability</b>	follow daily through media stability of fluctuation rate	keep the face 100 %	keep on planning	have adaptability to changes	behave (good) well to customers
<b>Manage human resources</b>	learn from the owner what to do and how to do	give the responsibilities to workers and follow what they are doing	have a good training for the staff	motivate the staff by economical rewards	give company paid vacation
<b>Follow technological development</b>	get training in computer skills	follow media	go to the fairs	know what technology is worth of buying	know the economic balance in business
<b>Market products /services</b>	invest in quality of products	have a good reputation	have commercially good image	train personnel well	influence through official channels
<b>Generate income</b>	prodivide good financial planning	evaluate monthly fiscal national economy	have financially sound investments	give commercials	get credits from the banks
<b>Have more customers</b>	have dialogue with customers	sell good products	provide good communication	evaluate internal and external work stage of the company	use more social networks
<b>Understand owner's way of running the business</b>	make use of experience	be a good leader	welcome politely customers according to the mood of the customer	"customer is always right"	"experience brings patience"

update the knowledge	follow the international fairs and daily trends	transform and modify ideas into Turkish trends	select the products based on experience and trust	buy products by heart and seeing
be honest with customers	compete with quality	keep promises and be loyal to the customers		
be prepared for European markets	rely on accountant's help as an expert (small business)	make use of financial advisors' work	make daily budgets instead of annual ones (SMC:s)	
have knowledge of entrepreneurial changes and development				
share experiences	promote in career			
forecast what happens next				
advertise in media	participate in bidding			
have compatible prices	be satisfied with small profit	depend on good services		
run ourselves the business	be a good organiser	respect your customers	taxi driver: " keep car in perfect condition, driver well dressed, safe driving, know the streets, good dialogue with customers, have patience"	



APPENDIX 8 DACUM seminar in Wien, Austria: April 25–26, 2005

*Developers:* Welsersheimb Teresa, Handzhixska Lyudmila, Junger Georg Bernd, Daxböck Karl, Sruc Karl

*Facilitator:* Westerholm Hely, *Card writer:* Allahwerdi Helena

**As an SMC-entrepreneur I am able to...**

<b>Motivate yourself</b>	have an internal fire to become an entrepreneur	find a strong desire	define a reward	accept failures	learn of failures and keep on living
<b>Create business idea</b>	learn to be creative	research markets	develop curiosity	listen to the customers	learn from others
<b>Create business plan</b>	make a business strategy	know financial mechanics from the top to bottom	know the rules of the business plan	know the environment (market, trends)	know legislature
<b>Realize the targets</b>	put business plan into reality	test market	develop and implement top quality management system	do not give up	be cycle (season) oriented
<b>Convince others</b>	promote products	choose advertising channels	identify customer groups	be charismatic	implement marketing campaigns
<b>Control, recheck, modify business</b>	establish the measurement system	control rolling forecasts	collect feedback from the field	make an interpretation from the data	consult experts
<b>Live the dream</b>	have a vision	be committed to the vision	demonstrate your commitment	be proactive	turn the dream into reality
<b>Organise the business</b>	set up an efficient and effective organisation	check the process	establish the necessary processes	make decisions on delegations (what you do yourself / and what you give to others)	organise daily routines
<b>Manage customer relations</b>	establish a certain customer management system	like the customers	"money comes from the customers"	establish the customer satisfaction process	"the cheapest salesman is a satisfied customer"

develop stress resistance	ensure personal (private) support	learn to make decisions			
learn from successes and failures	be better than your competitors	differ from your competitors	make decisions (business plan, manufacture...)	use your industry knowledge	
know and take into account the taxing system	define the targets	consider and minimize and contain risks	consider alternatives	develop and set checkpoints	plan and identify resources
observe milestones	obtain and secure the resources	try hard	drive with speed		
be authentic	define corporate identity and live it	keep alive company spirit	see that people are pulling to the same direction	treat people ethically	convince the customers that you are the best choice
decide and take corrective steps	revise business plan	cancel decision or carry on			
think positively	walk the talk	act upon your dream			
keep the timetable (calendar)	act in the organised way				
exceed and manage the expectations of the customers	be generous	put yourself into the customer's shoes	win and keep customers loyal	know the decision makers in the company	train yourself and your staff







APPENDIX 9 DACUM seminar in Budapest, Hungary: April 28, 2005

*Developers:* Dr. Pappné Herr Anna, Nagy Róbert, Pék Dorottya, Pálffy Gábor, Tóth József, Bádos László, Bukucs Erzsébet, Diénes Gábor, Farkas Mátá, Lugosi Zoltán, Kovács Annamária, Dr. Végh Józsefné (Ágnes)

*Facilitator:* Westerholm Hely, *Card writer:* Allahwerdi Helena, *Interpreter:* Szabó Gábor

**(The entrepreneur must be able to) / I am able to...**

<b>Enjoy the work</b>	survive the stress	love my job	be satisfied with my work	live in harmony with results	make profits
<b>Identify and represent the most important values</b>	provide quality	have creativity	meet the market needs and changes	accept alternatives	accept sudden changes
<b>Manage the business</b>	produce quality work	be able to adjust changes	produce innovative new products	have and find human resources	sell products and services
<b>Reach objectives</b>	have realistic picture of future	learn continuously	trust myself	trust himself	work following objectives
<b>Negotiate with clients</b>	be ambitions understanding and empathic	communicate with clients	understand clients	find the common meeting points between minorities and majorities	use different tactics according to target groups
<b>Motivate him/herself and others</b>	train the staff	motivate with money takes only a couple of days	motivate with interesting jobs	attract attention	do something interesting
<b>Plan the strategy</b>	be competitive	set up targets	recruite the right people into the company	define the work processes	set up milestones
<b>Market the products</b>	satisfy the clients	find partners	provide support	produce products/ services better than the ones of your competitors	trust my own products and services
<b>Be responsible for accounts</b>	minimize the costs	know the costs, income and profits	keep the sustainability	operate effectively	be reliable

use skills and abilities	communicate effectively	respect individuals		
feel free to do business				
make good decisions at the best moment	have good business relations	manage the change		
make market surveys	modify the products	produce new business based on personal contacts	utilize your knowledge and expertise about minorities	
keep in mind the topics	set up the deadlines			
give independence and responsibility				
find different means	make an activity plan	foresee the future	be one step ahead from your competitors	
have my products/services accepted in order to be sold	keep updated homepages (internet)	participate in exhibition, fairs...	plan the strategy and implement it from an activity plan	get an excellent reputation and image
consider economic factors and changes	keep the laws, be updated and find the loop holes			



APPENDIX 10 DACUM seminar in Klaipeda, Lithuania: May 10–11, 2005

*Developers:* Balse Danguole, Kekiene Danute Kristina, Stegviliene Rita, Andriuliene Ina, Burbiene Diana, Dirginciene Jurata, Zakarauskiene Bernadeta, Gudaviciene Ramute, Kazakauskiene Kristina, Kosmaciova Tatjana, Useliene Rasa

*Facilitator:* Westerholm Hely, *Card writer:* Allahwerdi Helena

**The entrepreneur must be able to**

<b>Plan activities</b>	create my strategy	use my time well	collect daily information	implement the strategic plan and make necessary changes	identify the reasons, if the plan doesn't work
<b>Arrange work</b>	"the more teaching one receives the better competitor he/she will be"	teach the staff means to loose them	get things done	design different duties	find new suitable staff members
<b>Search business environments</b>	analyze risks	follow the newest developments of the vocation	collect and anticipate customer needs	hire experts	survey customer segments
<b>Improve the management skills</b>	participate in seminars or training courses	continue professional life long learning	make more business with appropriate skills	organise structures	be tolerant
<b>Make modern products</b>	identify the best products	design competitive products	follow global trends	need unique products	create new products to local markets and lithuanians
<b>Organise team work</b>	make good working assignments	be aware of everyone's duties	be aware when the right hand doesn't know what the left hand is doing	understand everybody's duties	commit to the team
<b>Make and manage the flow of money</b>	give high quality service to customers	make budget	income inflow must be bigger than outflow of money	make the dreams come true	trust the ideas not the money
<b>Find the best markets and customers</b>	provide and meet the particular needs of the customers	strengthen customer's loyalty to the enterprise	to provide quality	be observant of others	handle all the employees the equal way
<b>Have courage to start an honest business</b>	have a choice – a vision to establish a private business	meet the clients' demands	value, honesty, name of the firm (image) friendliness, quality of services, qualifications of personnel	respect the clients	have an ability to analyse job profiles

reorganise tasks					
train the personnel	prefer company men to consultants				
determine demands for my products	find out my customer's prices	have knowledge about different cultures			
earlier you had to do what you're told, now you have to think it up what to do yourself	be creative and courageous and risk taking	estimate the risks realistically	solve risks by taking loans	predict and foresee if my customers really need my services	weigh options longer
offer trips to unknown destinations or extremists	create virtual reality	advertise Lithuania as it is - in depth	introduce Lithuania abroad	eradicate the lack of information about Lithuania	keep the customer satisfied
have professionalism	understand regular people	get special services			
be hard working, risk taking, honest	be committed and love your work	have knowledge, no fear			

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work more practi-  
cally

"men make the plans  
women implement  
them"

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## APPENDIX 11

TABLE 30

Sub-skills contained in the job analysis charts of all Finnish DACUM seminars classified into seven categories of Bloom's taxonomy

TABLE 30

## SUOMALAISTEN PIENYRITTÄJIEN YDINVALMUKSIEN OSAVALMIUDET

Kognitiivinen	Psykomotorinen	Affektiivinen	Kognitiivis- psykomotorinen	Kognitiivis- affektiivinen	Psykomotoris- affektiivinen	Kognitiivis- affektiivis- psykomotorinen
Tehdä budjetti	Osallistua järjestö- ja kansalaistoimintaan	Kunnioittaa asiakkaita	Antaa työtehtäviä	Uskaltaa palkata itseään viisaampia töihin	Toimia pitkäjänteisesti	Hoitaa asiakas asiantuntevasti
Priorisoida asiat ja työt järjestykseen	Tehdä monia asioita yhtä aikaa	Olla luotettava	Uudistaa toimintaa	Ei tinkiä laadusta	Tehdä tiimiyötä	Hyödyntää julkisuuden henkilöitä
Myydä	Antaa esitteitä	Olla rehellinen	Verkostoitua	Hallita voimavarat	Hallita vuorovaikutustaidot	Innovoida tuote
Suunnitella ja kehittää liiketoimintaa	Juokсутtaa käytäntöjä	Omata sisäinen paloryhtyä yrittäjäksi	Seurata maailman kehitystrendejä	Hankkia eri sidosryhmien luottamus	(Kohdata) huomioida asiakas	Hoitaa irtisanomiset
Hallita lakisääteiset velvoitteet	Siirtää omaa tietotaitoa	"Kuunnella" asiakasta	Ymmärtää ja seurata talouden kehitystä	Huomioida asiakkaan erityistarpeet	Ajatella omilla aivoilla	Antaa (ilmaista) rakentavaa kritiikkiä
Hallita hintatietoisuus	Toimittaa palveluja ja tuotteita	"Olla oman onnensa seppä"	Antaa ohjeita asiakkaalle	Huomioida henkilökemmiat	Elää ajan hermoilla	Antaa alennuksia
Hallita riskejä		"Haistaa" uudet tuotteet	Antaa vaihtoehtoja	Hyödyntää henkilöstön taidot	Jakaa työniloa	Kysellä asiakkaalta neuvoja
Tehdä tulosta		Aistia ajan henki	Automatisoida toimintaa	Kaivaa asiakkaan tarpeet	Johtaa energiaa, "virtaa"	Ratkaista riitatilanteita

Kognitiivinen	Psykomotorinen	Affektiivinen	Kognitiivis- psykomotorinen	Kognitiivis- affektiivinen	Psykomotoris- affektiivinen	Kognitiivis- affektiivis- psykomotorinen
Asettaa tavoitteita		Aistia tulevaisuuden tarpeet ja mahdollisuudet	Ennakoida huollon tarvetta	Kannustaa henkilökuntaa ja asiakkaita	Joustaa tilanteen mukaan	Huolehtia omasta kunnosta
Kerätä tietoa		Antaa mahdollisuus turvalliseen ja ihmisarvoiseen vanhuuteen	Harkita sukupolvenvaihdosta	Kannustaa työntekijöitä	Kannustaa	Tunnistaa yrityksen vahvuudet
Hankkia lisäkoulutusta		Arvostaa omaa työtä ja työntekeä	Hyödyntää mahdollisuudet	Kehittää laatuosaamista	Kehittyä vahvana sisäisenä yrittäjänä	Opettaa hiljaista tietoa
Tehdä päätöksiä		Astua tuntemattomaan	Hyödyntää yrityksen osaaminen	Kehittää yrityskulttuuria	Kyseenalaistaa käytäntöjä	Ennakoida tulevaa
Hankkia hyvä ammattialan koulutus		Ei siedä auktoriteetteja	Järjestää tiedotustilaisuuksia	Kuunnella aktiivisesti	Käyttää luovuutta	Edustaa yritystä
Tuntea markkinat		Haistaa mahdollisuuksia	Kehittää omaa ammattitaitoa	Kuunnella palautetta	Luoda oma työpaikkansa	Viedä ammattitaito käytäntöön
Myydä takuutuotteita		Herättää luottamusta	Kehittää tuote-/palveluratkaisuja	Kuunnella työntekijöitä	Luoda uusia tarpeita	Elää voitolla, ei vaan kaupalla
Kouluttaa henkilökuntaa		Huolehtia omasta jaksamisesta	Keksiä uutta	Kyetä luomaan luotettava yrityskuva	Luovuttaa omaa osaamista	Kokeilla tuotteita
Hallita ajankäyttö		Hyödyntää positiivista stressiä	Laatia lyhyen ja pitkän aikavälin suunnitelmia	Kyseenalaistaa taloudellisia käytäntöjä	Olla esimerkkinä	Hakea signaaleja

Kognitiivinen	Psykomotorinen	Affektiivinen	Kognitiivis- psykomotorinen	Kognitiivis- affektiivinen	Psykomotoris- affektiivinen	Kognitiivis- affektiivis- psykomotorinen
Hallita kassavirtaa		Iloita työn tekemisestä	Luopua yrityksestä	Luottaa yhteistyökumppaneihin	Olla oikeassa paikassa oikeaan aikaan	Huolehtia tuotteen "yläläpidosta"
Hallita päivittäiset rutiinit		Keskustella luottamuksellisesti ja avoimesti	Mennä messuille ja markkinoille	Motivoida	Huomioida perhe ja saada perheen/omaisten tuki	Hyödyntää olemassa olevia tuotteita
Hallita yrityksen kokonaisuus		Kestää stressiä	Ohjata henkilökuntaa	Muistaa merkkipäivät	Palvella asiakkaita	Katsoa toisen silmin "miten maailma makaa"
Hallita yrityksen taloushallinto		Kunnioittaa jokaista asiakasta	Oppia työtä tekemällä	Myydä "unelmia"	Pitää lomaa	"Kasvattaa" työyhteisöä
Hankkia riittävästi työkokemusta		Kunnioittaa toista	Organisoida kampanjoita	Myydä turvallisuutta	Pyrkiä elättämään itsensä yrittäjänä	Löytää "valttikortit"
Hyödyntää tietoa		Kuunnella	Osallistua yhteiskunnan toimintaan	Neuvotella asioista	Reagoida nopeasti haasteisiin	"Niin metsä vastaa kuin siihen huudetaan"
Järjestää perintäsystemi		Ladata "akkuja"	Ottaa käyttöön sidosryhmien tieto/taito	Olla ympäristötietoinen	Saada aikaan	Ohjata hoitoon jos tarpeen
Kehittää erityis toimintaa		Luoda unelmia	Ottaa yhteiskuntavastuuta	Oppia historiasta	Saada hankalista ihmisistä asiakkaita	Olla aikaansa edellä
Keksiä hyvä liikeidea		Luottaa omaan ammattitaitoonsa	Pitää asiat järjestyksessä	Olla korvaamaton	Saada muut tekemään	Kyseenalaistaa oma osaaminen

Kognitiivinen	Psykomotorinen	Affektiivinen	Kognitiivis- psykomotorinen	Kognitiivis- affektiivinen	Psykomotoris- affektiivinen	Kognitiivis- affektiivis- psykomotorinen
Keksiä ratkaisuja		Muistaa "asiakas"	Pitää perään antamatta ohjaketkset käsissään	Osata sanoa "EI"	Sietää kriittistä palautetta	Ottaa tilaisuudesta vaa- rin
Keskittää ostokset		Olla innovatiivinen	Pitää yhteyttä sidosryhmiin	Ostaa ammattitaitoa	Tehdä itsensä tunnetuksi	Palkita työntekijöitä
Käyttää asiantuntijoita		Omata kyky tehdä päätöksiä	Rajata ydinosaaaminen	Ostaa omalta reviiriltä	Toimia intuition varassa	Pitää langat omilla käsissään
Laatia aikataulu		Olla markkinoiden paras	Saada osto ja myynti toimimaan resurssien mukaan	Perustella omaa hinnoittelua ja tuotteiden lisäarvoa	Tuntea "sormenpäissään näppituntumaa" yrityksen toiminnasta	Pitää varansa taloudellisesta maniplulaatiosta
Laskea kassa		Olla oman itsensä herra	Selkiyttää vastualueet	Pitää huolta työsuojelusta ja lakisääteisistä velvoitteista	Uhmata vakiintuneita käytäntöjä	Pitää yllä ammattitaitoa
Laskea kustannuksia		Olla tietoinen omasta "vapaudesta"	Suunnitella verkostoitumista	Rekrytoida oikeat ihmiset oikeisiin tehtäviin	Uskaltaa panna itsensä likoon	Somistaa näyteikkunat
Mallintaa työtä		Olla yhteistyökykyinen	Suunnitella yrityksen imagoa	Sitoutua yrittämiseen	Vahvistaa asiakkaan itsetuntoa	Välttää harhauttavaa mainontaa
Markkinoida		Omata "liukua", sujuvuutta	Säästää aikaa ja rahaa	Tinkii	Valtuuttaa vastuuta	Vääntää rautalangasta
Myydä tietoa		Omata luontaista johtajuustaitoa	Tehdä ja hyväksyä kompromisseja	Toimia kurinalaisesti	Varautua epärehellisyyteen	Toimia monikulttuurisesti

Kognitiivinen	Psykomotorinen	Affektiivinen	Kognitiivis- psykomotorinen	Kognitiivis- affektiivinen	Psykomotoris- affektiivinen	Kognitiivis- affektiivis- psykomotorinen
Organisoida		Omata riskinotto- ky	Ulkoistaa toimintoja	Tunnistaa "laatutuot- teet"	Välittää suomalaista kädentaitoa (kulttuu- ria)	Myydä ammattitaitoa
Ostaa alihankintoja		Omata yrittäjän tun- tosarvet	Vaihtaa tietoa kilpailijoi- den kanssa	Tuntea asiakkaiden tarpeet	Hymyillä asiakkaalle	Myydä ratkaisuja on- gelmiin
Ostaa huoltopalvelu- ja		Pitää sanansa	Valmistella tarjouksia	Tuntea asiakkaiden taustat ja historia	Pystyä toimimaan "suu sänkiä myöten"	Raportoida henkilöstöl- le yrityksen tilasta
Ostaa ja hinnoitella tuotteita		Poistaa epävarmuut- ta	Valvoa yrityksen toimin- taa	Tuntea eri kulttuurit	Toimia "leelian lepo- tuolina"	Hallita elämäntilanteet
Ostaa koulutuspalve- lujä		Puhaltaa yhteen hii- leen	Varautua yllättäviin ti- lanteisiin	Tuntea sidosryhmät	Toimia ajan hermoil- la	Pitää huolta hyvin- voinnista
Ostaa tietoliikenne- palvelut		Tulla toimeen ihmis- ten kanssa	Varmistaa mitä tehdään, miten tehdään	Valita "oikeat" yhteis- työpartnerit	Palvella ja neuvoa asiakkaitaan hyvin	Kohdata ja käsitellä konflikteja
Ostaa yrityksen var- tiointi		Tuottaa mielihyvää	Ottaa käyttöön ja ylläpi- tää kotisivuja	Valmentaa vastuuseen	Tasapainottaa amma- tillinen toiminta ja yksityiselämä	Hallita muutoksia
Ottaa hyöty "ilmai- sesta" työvoimasta		Uskaltaa olla erilai- nen kuin kilpailijat	Hankkia vuokratiloja	Varautua sairauksiin		Järjestää asiakasiltoja

Kognitiivinen	Psykomotorinen	Affektiivinen	Kognitiivis- psykomotorinen	Kognitiivis- affektiivinen	Psykomotoris- affektiivinen	Kognitiivis- affektiivis- psykomotorinen
Ottaa vastuuta		Uskoa itseensä ja asiaan	Hyödyntää uutta tekniikkaa	Vastata asiakkaan tarpeisiin viivyttämättä		Käyttää "puskaradioita"
Perustaa yritys		Varoa "väärää" tietoa	Järjestää palaverit	Nähdä, että tulot ovat suuremmat kuin menot		Piirtää tuote-ehdotuksia
Pyytää tarjouksia		Ylläpitää myönteistä ilmapiiriä	Järjestää tilat heräteos- toille	Määritellä asiakkaan tarpeet oikein		Delegoida työtä ja tehtäviä
Päivittää oikea hinta		Ymmärtää, että mikään ei ole koskaan valmista	Järjestää varasto mene- kin mukaan	Tietää, missä mennään		Antaa ja ottaa palautetta
Rakentaa yrityksen perusta kunnolla ennen kuin lähtee kansainvälistymään		Olla valmis muuttu- maan	Löytää vertaistukea	Tunnistaa markkinara- ot		Antaa maistiaisja
Ratkaista ongelmia			Soveltaa tietoa	"Tavoite" olla alansa paras		Käydä kehityskeskusteluja
Seurata budjettia			Toteuttaa mediamainon- taa	Nähdä mahdollisuuksia		Kannustaa ihmisiä (asiakkaita, henkilökuntaa)

Kognitiivinen	Psykomotorinen	Affektiivinen	Kognitiivis- psykomotorinen	Kognitiivis- affektiivinen	Psykomotoris- affektiivinen	Kognitiivis- affektiivis- psykomotorinen
Seurata markkinoita			Antaa tehtäviä	Tietää milloin voi luottaa toiseen		Ymmärtää "lepo-, lempi-, leija- ja liikunta-asioiden" merkitys
Seurata uutisia ja maailman tapahtumia			Jakaa vastuuta	Kehittää yrityksen imagoa		Tunnistaa/identifioida yrityksen "osaamisen" tähdet
Suunnitella ajankäyttöä				Rekrytoida henkilökunta		Toteuttaa yksilöllistä palvelua
Suunnitella investointeja						Käyttää katumainontaa
Suunnitella varaston kierto						Muotoilla tuote
Säästää henkilökuiluissa						Delegoida "osaamattomuus" asiantuntijoille
Taata nopeat toimitukset						Antaa näytteitä
Tarjota parkkipaikoja						Pyytää apua myös muilta
Tehdä ilmoituksia						Toimittaa oikeaan aikaan tuotteita ja palveluja "oikeille asiakkaille"
Tehdä järkeviä taloudellisia päätöksiä						Markkinoida unelmia

Kognitiivinen	Psykomotorinen	Affektiivinen	Kognitiivis- psykomotorinen	Kognitiivis- affektiivinen	Psykomotoris- affektiivinen	Kognitiivis- affektiivis- psykomotorinen
Tehdä rahoitussuunnitelma						Tunnistaa asiakkaiden yksilölliset tarpeet
Tehdä suoramarkkinointia						Tunnistaa asiakkaiden tarpeet
Tehdä työlistat						Palvella tasapuolisesti kaikkia asiakkaita
Tehdä vaihtoehtolaskelmia						
Tehdä valintoja hinnoittelun perusteella						
Tunnistaa eri rahoituslähteet						
Tuntea hyvin oma toimialansa						
Tuntea kilpailijat						
Tuntea yhteiskunnan pelisäännöt						
Turvata riittävä rahoitus						



Kognitiivinen	Psykomotorinen	Affektiivinen	Kognitiivis- psykomotorinen	Kognitiivis- affektiivinen	Psykomotoris- affektiivinen	Kognitiivis- affektiivis- psykomotorinen
Turvata yrityksen taloudellinen tulevaisuus						
Valmistella tulevat työt						
Vastata tiedonkuluks- ta						
Verrata tulosta bud- jettiin						
Vuokrata erikoistyö- laitteita						
Vuokrata työvoimaa						
Vähentää "hävikkiä"						
Erikoistua laatutuot- teisiin						
Hankkia monipuoli- nen kielitaito						
Suunnitella kausi- tuotteita ja kampan- joita						
Suunnitella työtehtä- viä						
Tehdä markkinatut- kimuksia						

Kognitiivinen	Psykomotorinen	Affektiivinen	Kognitiivis- psykomotorinen	Kognitiivis- affektiivinen	Psykomotoris- affektiivinen	Kognitiivis- affektiivis- psykomotorinen
Tehdä varasuun- telmia						

## APPENDIX 12

TABLE 31

Sub-skills contained in the job analysis charts of all foreign DACUM seminars classified into seven categories of Bloom's taxonomy

TABLE 31

Kognitiivinen	Psykomotorinen	Affektiivinen	Kognitiivis-psykomotorinen	Kognitiivis-affektiivinen	Psykomotoris-affektiivinen	Kognitiivis-affektiivis-psykomotorinen
Kehittää ja asettaa arviointipisteitä	Osallistua seminaareihin tai harjoituskursseille	Kohdella kaikkia työntekijöitä tasa-arvoisesti	Arvioida asetettujen tavoitteiden toteutuminen	Erottautua kilpailijoista	Kohdella ihmisiä eettisesti	Delegoida tehtäviä, älä tee kaikkea itse
Kouluttaa itseään ja työntekijöitään	Edistää urakehitystä	Kunnioittaa asiakkaita	Harkita vaihtoehtoja	Hyväksyä takaiskut	Kuunnella asiakkaita	Kehittää ja toteuttaa laatujärjestelmä
Käyttää ammatillista tietoutta	Vaikuttaa virallisten kanavien kautta	Luottaa ideoihin, ei rahaan	Kerätä palautetta asiakailta	Kehittää uteliaisuutta	Määrittellä palkinto	Luoda tehokas ja toimiva organisaatio
Luoda asiakashallintajärjestelmä	Vastata tileistä	Olla ahkera, riskinottaja, rehellinen	Konsultoida asiantuntijoita	Olla aktiivinen	Näyttää sitoutuneisuus	Määrittää yritys, tunnistaa ja elää se
Määrittellä tavoitteet		Olla ammattitaitoinen	Markkinoida tuotteita	Olla parempi kuin kilpailijat	Toimia unelmien mukaan	Oppia olemaan luova
Määrittää mittarit		Olla huomiokykyinen	Oppia menestyksestä ja takapakeista	Olla uskollinen visiolle	Toteuttaa unelmat	Pitää yllä yrityksen hyvä henki
Oppia tekemään päätöksiä		Olla luova, rohkea ja ottaa riskejä	Oppia muilta	Pitää asiakkaista	Vakuuttaa asiakkaille, että olet paras valinta	Taata perheen tuki

Kognitiivinen	Psykomotorinen	Affektiivinen	Kognitiivis- psykomotorinen	Kognitiivis- affektiivinen	Psykomotoris- affektiivinen	Kognitiivis- affektiivis- psykomotorinen
Olla kausisuuntautunut		Olla omistautunut ja rakastaa työtään	Oppia takaiskuista ja jatkaa eteenpäin	Tunnistaa asiakasryhmät	Jakaa kokemuksia	Toteuttaa asiakaspalveluprosessi
Parantaa markkinointisuunnitelmaa		Olla suvaitsevainen	Organisoida päivittäiset rutiinit	Arvioida riskejä realistisesti	Keskustella asiakkaiden kanssa	Tuntea taloudelliset asiat läpikotaisin
Suunnitella ja tunnistaa voimavarat		Olla tietoinen, jos oikea käsi ei tiedä, mitä vasen tekee	Ottaa huomioon ja minimoida sisältyvät riskit	Arvioida työn kuvaa	Käyttäytyä hyvin asiakkaita kohtaan	Varmistaa, että työntekijät puhaltavat yhteen hiileen
Hankkia ja turvata voimavarat		Olla tietoinen kaikkien tehtävistä	Pitää kiinni aikataulusta	Etsiä uusia sopivia työntekijöitä	Luoda hyvä maine	Ylittää ja johtaa asiakkaan odotukset
Tarkistaa aina uudelleen ulkoisesti ja sisäisesti		Omata tietoa, ei pelkoa	Päätää ja ottaa korjaavia askeleita	Käyttää oma aika tehokkaasti	Luottaa hyvän palvelun toimivuuteen	Arvostaa: rehellisyys firman nimi, ystävällisyys, palvelun laatu, henkilökunnan pätevyys
Tehdä liiketoimintasuunnitelma		Ajatella positiivisesti	Tarkistaa prosessi	Luoda hyviä työtehtäviä	Mennä töihin ajoissa	Ennustaa ja arvioida tarvitsevatko asiakkaat välttämättä palvelujani

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Kehittää markkinointi- suunnitelma		Kehittää stressin- sietokykyä	Testata markkinat	Palkata asiantunti- joita	Pitää asiakkaat tyytyväisinä	Esitellä Liettua ulko- mailla
Tehdä markkinointitutki- mus		Kulkea lujaa eteenpäin	Toimia organisoidusti	Tehdä unelmista totta	Pitää lupaukset ja olla uskollinen asiakkaille	Kohdentaa ammatilli- set voimavarat oikein
Tehdä päätöksiä (bu- siness-suunnitelma, tuo- tanto...)		Löytää vahva ha- lu	Toteuttaa liikesuunni- telma	Tunnistaa parhaat tuotteet	Toivottaa terve- tulleeksi kaikki asiakkaat riip- pumatta heidän mielialastaan	Luoda uusia tuotteita paikallisille markki- noille ja liettualaisille
Tehdä liiketoimintastrate- gia		Olla aito	Toteuttaa markkinointi- kampanjoita	Ymmärtää tavalli- sia ihmisiä	Hyväksyä äkil- liset muutokset	Luoda virtuaalitodel- lisuus
Tehdä varasuunnitelma		Olla antelias	Toteuttaa tarvittavat pro- sessit	Hankkia kaupalli- sesti hyvä imago	Kommunikoida asiakkaiden kanssa	Löytää ja kohdata asi- akkaan erityiset tar- peet
Tietää päätöksentekijät yrityksessä		Olla karismaatti- nen	Toteuttaa tehdyt päätök- set	Kouluttaa henki- lökunta hyvin	Kommunikoida tehokkaasti	Mainostaa Liettuaa perusteellisesti

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Tulkita aineistoa		Olla kärsivällinen	Antaa asiakkaille korkea- laatuista palvelua	Käyttää hyväksi talousneuvojan apua	Mukautua muutoksiin	Omata mahdolli- suus/visio perustaa oma yritys
Tuntea ja ottaa huomioon verotus		Olla yritteliäs	Jatkaa ammatillisen osaamisen elinikäistä oppimista	Luottaa kirjanpitä- jän apuun asian- tuntijana	Olla yksi askel edellä kilpaili- jaa	Omata tietoa vieraista kulttuureista
Tuntea kilpailijan tuotteet		Omata sisäinen tuli yrittäjyyteen	Järjestää tehtävät uudel- leen	Mukautua muu- toksiin	Saada ja löytää henkilöstöä	Organisoida rakentei- ta
Tuntea lainsäädäntö		Omata visio	Kohdata asiakkaiden tarpeet	Ostaa tuotteita näppituntumalla	Selvitä stressis- tä	Pitää asiakkaat tyyty- väisinä
Tuntea liiketoimintasuun- nitelman säännöt		Pistää itsensä asi- akkaan asemaan	Ottaa selvää oman asiak- kaan hinnoista	Pyytää asiakkailta reilu ja kohtuulli- nen hinta		Punnita vaihtoehtoja pitempään
Tuntea ympäristönsä (markkinat, trendit)		Voittaa ja pitää asiakkaat tyyty- väisinä	Tarjota erikoispalveluja	Valmistautua Eu- roopan markki- noille		Seurata globaaleja trendejä
Tutkia markkinoita		Kunnioittaa asi- akkaita	Tehdä työt loppuun	Antaa itsenäisyyt- tä ja vastuuta		Seurata ja ennakoida asiakkaiden tarpeita

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Valita markkinointikana- vat		Motivoida työn- tekijöitä taloudel- lisin bonuksin	Työskennellä käytännöl- lisemmin	Hankkia/saada tukea		Sitoutua ryhmään
Valvoa muuttuvia ennus- teita		Olla hyvä johtaja	Antaa palkallista lomaa	Käyttää taitoja ja kykyjä		Suosia yrityksen omia miehiä konsultoinnis- sa
Arvioida riskejä		Olla rehellinen asiakkaille	Muuntaa ideat turkkilai- siksi trendeiksi	Olla kilpailuhalui- nen		Tarjota matkoja aivan uusiin kohteisiin
Kerätä päivittäinen infor- maatio		Olla tyytyväinen pieniin voittoihin	Osallistua tarjouskilpai- luun	Pitää yllä vakautta		Tarvita uniikkeja tuot- teita
Kouluttaa henkilökuntaa		Oppia omistajalta mitä ja miten toi- mia	Otaa pankista luottoa	Tehdä hyviä pää- töksiä parhaalla hetkellä		Toteuttaa suunnitelma ja tehdä siihen tarvit- tavat muutokset
Luoda strategia		Pitää pokka sata- prosenttisesti	Pitää aikataulusta kiinni	Tuottaa parempia tuotteita/palveluja kuin kilpailijat		Tunnistaa syyt, jos suunnitelma ei toimi

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Määrittää omien tuotteiden kysyntä		Elää sopusoinnussa saatujen tulosten kanssa	Päivittää tietoja	Ymmärtää asiakkaita		Vahvistaa asiakkaiden uskollisuutta yritystä kohtaan
Ratkaista riskit ottamalla lainaa		Harkita taloudellisia tekijöitä ja muutoksia	Seurata kansainvälisiä messuja ja trendejä			Antaa työntekijöille vastuuta ja seurata heidän tekemisiään
Seurata alan uusinta kehitystä		Herättää huomiota	Seurata mediasta päivittäin talouden tilannetta			Ennustaa tulevaa
		Kunnioittaa yksilöitä	Seurata Turkin taloutta ja toimia muutosten mukaan			Kommunikoida hyvin
Suunnitella eri vastuualueita		Luottaa itseensä	Tietää teknologian rahallinen arvo			Käyttää enemmän sosiaalisia suhteita
Suunnitella kilpailukykyisiä tuotteita		Luottaa omiin tuotteisiin ja palveluihin	Varmistaa, että työntekijät ovat ajoissa			Käyttää hyväksi kokemus
Tehdä budjetti		Luottaa toiseen ihmiseen	Hyväksyä vaihtoehtoja			Olla hyvä organisoiija



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Poistaa tiedonpuute Liettuasta		Motivoida mielenkiintoisilla töillä	Oppia koko ajan uutta			Omata hyvä tieto alastaan
Tuottaa laatua		Olla kunnianhimoinen, ymmärtäväinen ja empaattinen	Osallistua näyttelyihin, messuille			Tietää mitä tekee
Tutkia asiakasryhmiä		Olla luotettava	Pitää päivitettyjä kotisivuja			Valita tuotteet asiantuntemuksella ja luotamuksella
Ymmärtää kaikkien tehtävät		Olla luova	Tuottaa laatutyötä			Yhdistää 15 insinöörin tiedot ja taidot
Antaa tuotteille takuita		Olla tyytyväinen työhön	Tuottaa laatua			Hankkia hyvä maine ja imago
Arvioida kuukausittain valtion taloutta		Pitää aiheet mielessä	Työskennellä tavoitellen päämääriä			Hyväksyttää tuotteet/ palvelut myytäväiksi
Arvioida yrityksen sisäisen ja ulkoisen työn laatua		Rahan käyttö motivaationa ei vie pitkälle				Hyödyntää tietoutta ja asiantuntemusta vähemmistöistä

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Hankkia atk-taidot		Rakastaa työtään				Kohdata markkinoiden tarpeet ja muutokset
Hankkia tietoa yrittäjyydestä, sen muutoksista ja kehityksestä		Tehdä jotain mielenkiintoista				Käyttää eri taktiikoita kohderyhmästä riippuen
Johtaa itse yritystä		Tuntea olla oikeutettu yrittäjyyteen				Luoda uusi yritys henkilökohtaisten kontaktien avulla
Kilpailla laadulla		Tyydyttää asiakkaan tarpeet				Löytää enemmistöjen ja vähemmistöjen yleiset kohtaupaikat
Kouluttaa työntekijät hyvin						Noudattaa lakia, olla ajan tasalla ja löytää porsaanreiät
Käydä messuilla						Omata hyvät liike-elämän kontaktit

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Mainostaa tiedotusväli- neissä						Rekrytoida oikeat henkilöt
Myydä hyviä tuotteita						Toimia tehokkaasti
Pitää kilpailukykyiset hinnat						Tuottaa innovatiivisia uusia tuotteita
Pitää kirjaa, kuinka hyvin tuotteet toimivat						
Seurata tiedotusvälineitä						
Sijoittaa tuotteiden laa- tuun						
Suunnitella tuotteiden/ tuotannon kasvu						
Tehdä hyvät taloudelliset suunnitelmat						
Tehdä mainoksia						

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Tehdä päivittäiset budjetit vuosittaisten sijaan						
Tehdä taloudellisesti kannattavat sijoitukset						
Tuntea kaupanteon taloudellinen tasapaino						
Tuntea tuotantoprosessin yksityiskohdat						
Tuntea tuotteet/ palvelut						
Ylläpitää suunnittelua						
Aikatauluttaa työtä						
Asettaa päämääriä						
Asettaa välipäämääriä						

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Hankkia realistisnn kuva tulevaisuudesta						
Johtaa muutosta						
Kouluttaa henkilökunta						
Löytää erilaisia ratkaisu- keinoja						
Löytää partnereita						
Minimoida kustannukset						
Muokata tuotteet						
Myydä tuotteita ja palve- luja						
Määrittää työprosessi						
Tehdä toimintasuunnitel- ma						

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Tehdä markkinatutkimuksia						
Tehdä strategiasuunnitelma ja toteuttaa se toimintasuunnitelmalla						
Tehdä voittoa						
Tietää kustannukset, tulot ja voitot						



